

TEAM BASED LEARNING

Aaron Bridges. | 28

OBJECTIVES

- Recall the basic tenets of active learning
- Apply discussed literature to the classroom
- Evaluate active learning theories

TIME



MEASURING LEARNING

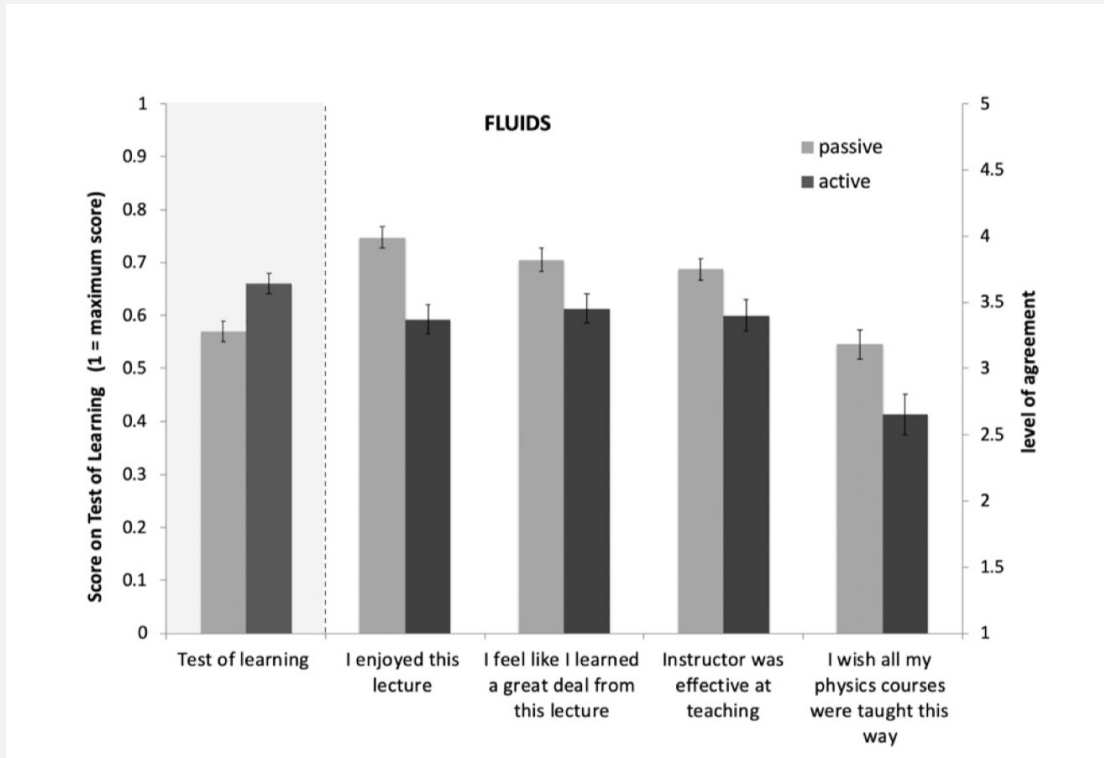
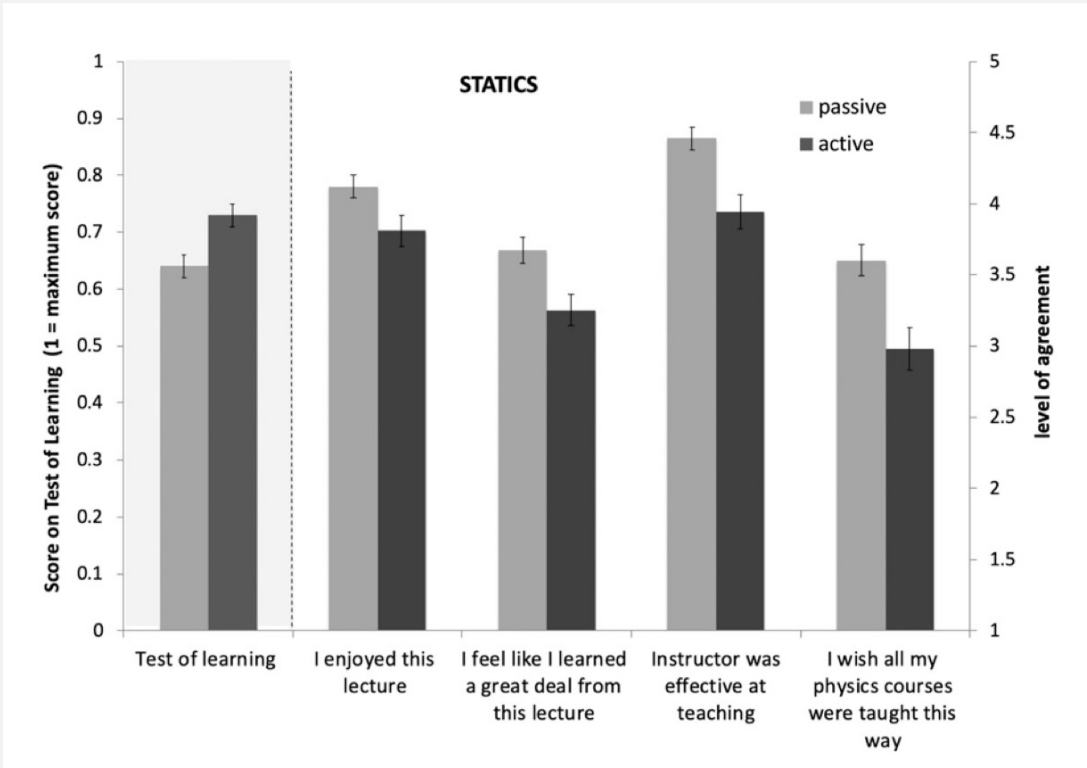


Figure 1. Figure 2. Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom

EXAM PERFORMANCE

Exam performance

	Traditional (%), <i>n</i> = 95	Team-based learning (%), <i>n</i> = 102	<i>p</i> Value
Exam 1 mean score	82.1%	87.3%	< 0.001
Exam 2 mean score	80.9%	87.8%	< 0.001
Final exam mean score	80.6%	86.7%	< 0.001

Table 3. Impact of team-based learning on perceived and actual retention of over-the-counter pharmacotherapy

TECHNOLOGY



TECHNOLOGY

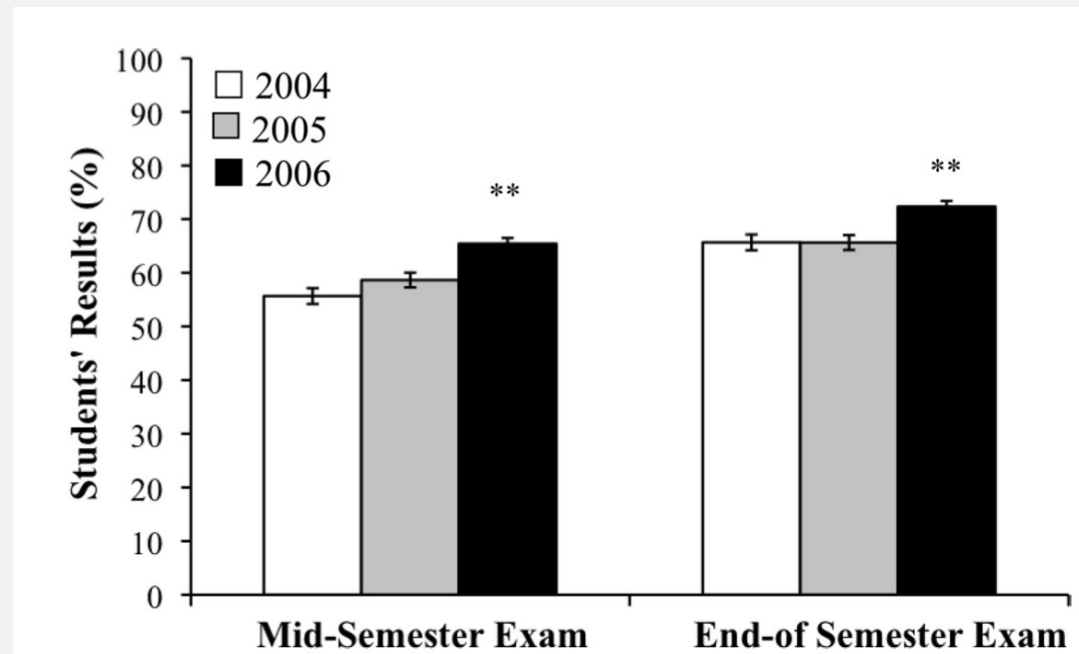
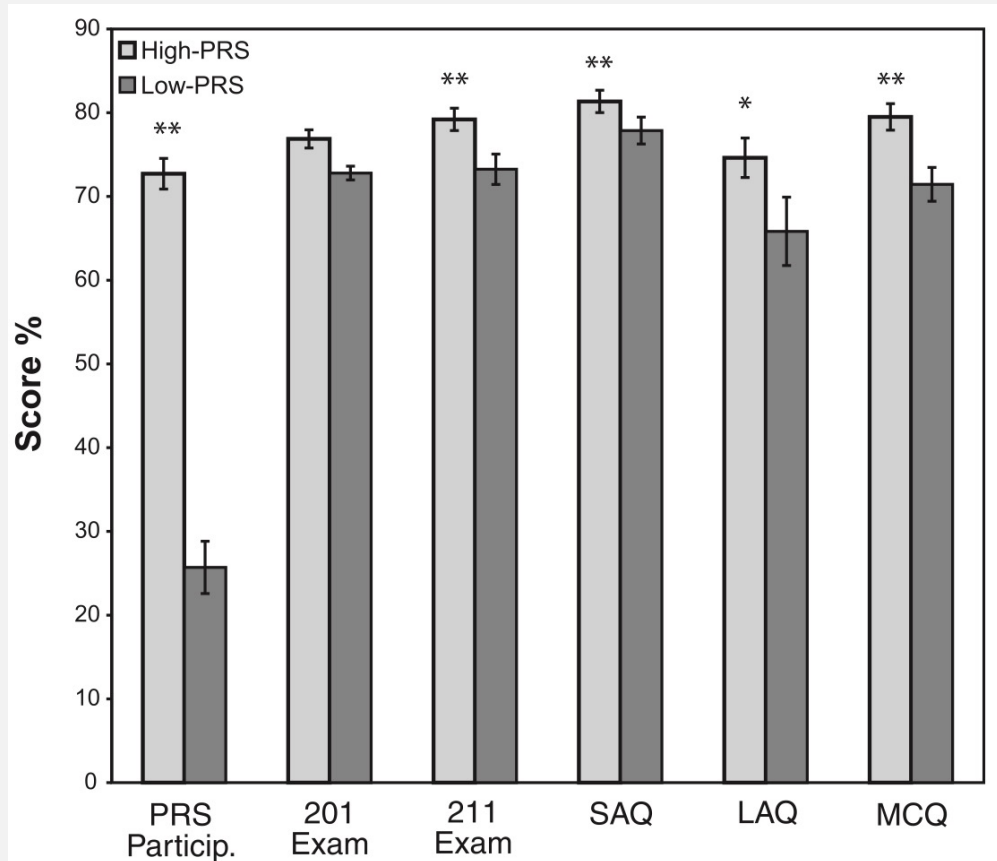


Figure 5. Figure 6. Promoting student-centered active learning in lectures with a personal response system.

TECHNOLOGY

- Keeps students engaged and in charge of their own learning
- Learning software
 - Competitive games that keeps score
 - Immediate self-assessment

PEER ASSESSMENT

BENEFITS

- Learn through other's feedback
 - Constructive criticism
- Clarify roles in the team
- Reflective comparison
 - Evaluating their work vs. their peers

MY THOUGHTS

MY THOUGHTS

- Emphasize learning and why TBL is used in the class
 - Measure learning
 - Explain the purpose
- More than just case-based learning

MY THOUGHTS

- Formative peer assessments
 - More peer assessments given throughout the semester
 - Additional feedback to learn from various thoughts
 - A greater understanding of problems
 - Motivation

MY THOUGHTS

- Break up monotonous lecture with brief techniques
 - Retrieval practice
 - Think-pair-share
 - Pausing

REFERENCES

1. Wilson JA, Waghel RC, Free NR, Borries A. Impact of team-based learning on perceived and actual retention of over-the-counter pharmacotherapy. *Currents in Pharmacy Teaching and Learning*. 2016;8(5):640-645. doi: <https://doi.org/10.1016/j.cptl.2016.06.008>.
2. Farland MZ, Franks AS, Barlow PB, Shaun Rowe A, Chisholm-Burns M. Assessment of student learning patterns, performance, and long-term knowledge retention following use of didactic lecture compared to team-based learning. *Currents in Pharmacy Teaching and Learning*. 2015;7(3):317-323. doi: <https://doi.org/10.1016/j.cptl.2014.12.009>.
3. Johnson JF, Bell E, Bottenberg M, et al. A multiyear analysis of team-based learning in a pharmacotherapeutics course. *Am J Pharm Educ*. 2014;78(7):142. doi:10.5688/ajpe787142.
4. Tharayil S, Borrego M, Prince M, et al. Strategies to mitigate student resistance to active learning. *Int J STEM Educ*. 2018;5(1):7. doi:10.1186/s40594-018-0102-y.
5. Freeman S, Eddy SL, McDonough M, et al. Active learning increases student performance in science, engineering, and mathematics. *Proc Natl Acad Sci U S A*. 2014;111(23):8410-8415. doi:10.1073/pnas.1319030111.
6. Gupta D, Smith MM, Tromp K. Utilization of active learning approaches in medicinal chemistry and subsequent correlations with North American Licensure Examination and Pharmacy Curriculum Outcomes Assessment scores. *Curr Pharm Teach Learn*. 2021;13(4):376-381. doi:10.1016/j.cptl.2020.11.002.
7. Deslauriers L, McCarty LS, Miller K, Callaghan K, Kestin G. Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom. *Proc Natl Acad Sci U S A*. 2019;116(39):19251-19257. doi:10.1073/pnas.1821936116.
8. Minhas PS, Ghosh A, Swanzy L. The effects of passive and active learning on student preference and performance in an undergraduate basic science course. *Anat Sci Educ*. 2012;5(4):200-207. doi:10.1002/ase.1274.
9. Gauci SA, Dantas AM, Williams DA, Kemm RE. Promoting student-centered active learning in lectures with a personal response system. *Adv Physiol Educ*. 2009;33(1):60-71. doi:10.1152/advan.00109.2007.
10. Evans DJ, Zeun P, Stanier RA. Motivating student learning using a formative assessment journey. *J Anat*. 2014;224(3):296-303. doi:10.1111/joa.12117.
11. Dantas AM, Kemm RE. A blended approach to active learning in a physiology laboratory-based subject facilitated by an e-learning component. *Adv Physiol Educ*. 2008;32(1):65-75. doi:10.1152/advan.00006.2007.