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Fostering Student Engagement: Four Strategies

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Fostering Student Engagement: Four Strategies

UNLV Best Teaching Practices Expo 2019

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The practice and the need it addresses | **Evidence this practice benefits UNLV Students** | **Resources and where to find them** | **How other UNLV teachers might adopt this practice**

Background

In response to studies demonstrating that poor teaching was the cause of many students leaving math, science, and engineering programs, the American Society of Civil Engineers (ASCE) developed the ExCEEd (Excellence in Civil Engineering Education) Teaching Workshop. Several faculty from the UNLV Department of Civil & Environmental Engineering and Construction have attended the highly intensive five-day workshop. To evaluate the impact on student engagement, four basic instructional strategies from the ExCEEd workshop, applicable to all fields, were tested and assessed during the Fall 2018 semester.

- *Questioning Techniques*
- *Physical Models*
- *Instructor Movement*
- *Group Work*

Goal/Objective

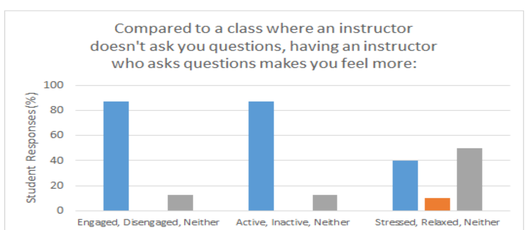
Implement questioning techniques, physical models, instructor movement, and group work from the ASCE ExCEEd workshop were implemented to increase student engagement, thereby encouraging active class participation.

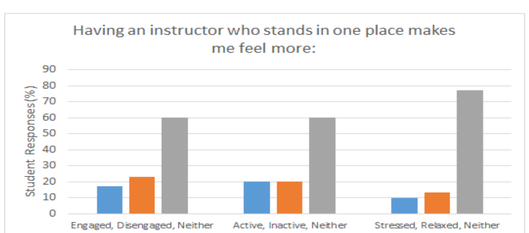
Engagement - Best Practices

Literature on student learning reveals common themes or best practices for instructors. Among these themes are active learning, interaction between students and instructor, and interaction between students [1,2,3,4]. Overall, these practices constitute student engagement, and increasing student engagement has a positive effect on learning.

We asked UNLV engineering students if they felt that they benefited from these "best practices" in the classroom. Most students indicated a positive effect from questioning, physical models and group work, but fewer students found instructor movement to be important to their learning.

Do you feel that you pay more attention because you know your instructor will ask you questions during class?	83% Yes	17% No	
Do you feel that physical models and demonstrations help you to understand concepts better?	59% Yes, always	41% Yes, sometimes	0% No, never
I find that working in small groups improves my learning.	33% Yes, often	57% Yes, sometimes	10% No, never





Resources for Educators

The following list provides valuable resources for educators to support teaching activities and increase student engagement.

On-campus offices or people

- Meet a teaching coach
- Mentoring groups for faculty

Grant opportunities

- US Department of Education
- Foundation Directory Online
- Get Ed Funding

Library resources

- UNLV - Library Instruction
- UNLV - Library Workshops

URLs

- https://cft.vanderbilt.edu/teaching-guides/
- *https://www.asee.org/public/conferences/106/papers/21723/view*

Publications

- Bloom's, T. M. E. (1965). Bloom's taxonomy of educational objectives. Longman.
- Mastering the Techniques of Teaching - Joseph Lowman
- Estes, A. C., Welch, R. W., & Ressler, S. J. (2004). Questioning: bring your students along on the journey. Journal of Professional Issues in Engineering Education and Practice, 130(4), 237-242.

Building Your Instructional Strategies

Questioning Techniques

- Learn the various question types
- Pre-plan questions into your lesson
- Learn your students' names
- Call on students once per class
- Walk students through the question (avoid accepting "I don't know")

Physical Models

- Have your students make models and keep these models for future years
- Select at least one class per month to add a model (build on this each semester)

Movement

- Avoid the podium and use a slide clicker
- Pause from your writing and leave the board to interact with the students
- Teach from the back of the room periodically

Group Work

- Pre-plan the problems
- Use problems that are solvable in a few minutes
- Move around and encourage discussion

For all areas - Incorporate self-assessment and ask for peer assessment

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1. Chickering, A. W. and Z. F. Gamson. Seven Principles for Good Practice in Undergraduate Education, *AAHE* Bulletin, March, (1993).
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3. McKeachie, W. Teaching Tips, Lexington, MA, D.C. Heath and Company, (1994) Ninth ed.
4. Davis, B. Tools for Teaching, Jossey-Bass Publishers, San Francisco, (1993).