

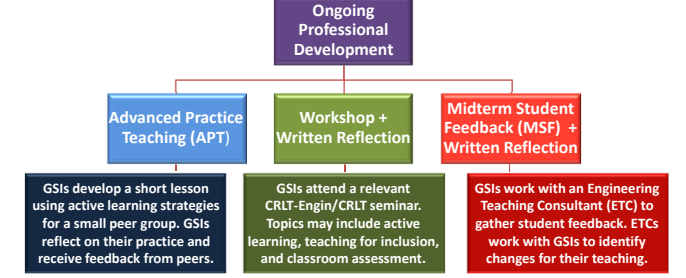
Leveraging Choice to Motivate Ongoing Professional Development for New Engineering Graduate Student Instructors

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Background

New Engineering Graduate Student Instructors (GSIs) attend a teaching orientation that provides training on best practices for learning and teaching and creates awareness of classroom climate issues. During the term, new Engineering GSIs complete ongoing professional development (OPD) training, which gives GSIs opportunities to learn new skills and apply them to their current teaching positions through written reflections. Originally, Advanced Practice Teaching (APT) was required of all new GSIs. However, some GSIs did not feel that APT was the best fit given their teaching responsibilities. To give GSIs more flexibility, additional OPD options were introduced.



Theoretical Framework

This project explores new engineering GSIs' perceptions of their pedagogical professional development through the lens of Wlodkowski's motivational factors for adult learners (Wlodkowski, 1999). As summarized by Felder, Brent & Prince (2011), there are five key characteristics to engage adult learners. CRLT-Engin has designed the ongoing professional development with this framework in mind.

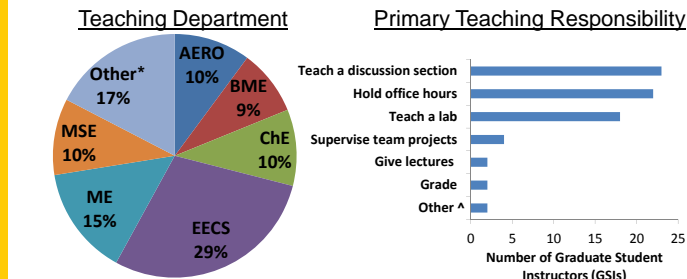


Research Question

To what extent does the GSIs' ability to choose from a variety of pedagogical professional development opportunities lead to greater satisfaction with their required training and confidence in their teaching abilities?

Experimental Design

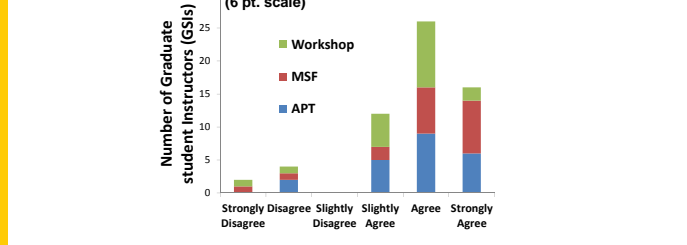
- Methodology**: All new engineering GSIs were invited to participate in an online survey which explores their backgrounds and beliefs about teaching, professional development, and self-efficacy.
- Sample**: 158 first-term engineering GSIs in Fall 2013 (46% response rate)



*Other includes AOSS, CEE, ENGR, IOE, IS+D, & NAME
 *Other includes having more than one primary teaching duty (e.g., office hours, discussion, and/or grading)

Results

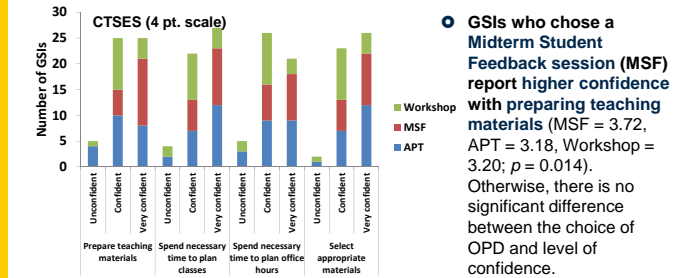
- Respondents were equally distributed among the training options.
- Did not complete, 2%
- Workshop 31%, APT 36%, MSF 31%
- Ninety percent of GSIs who responded to the survey agree that their ongoing professional development was helpful regardless of the option chosen.



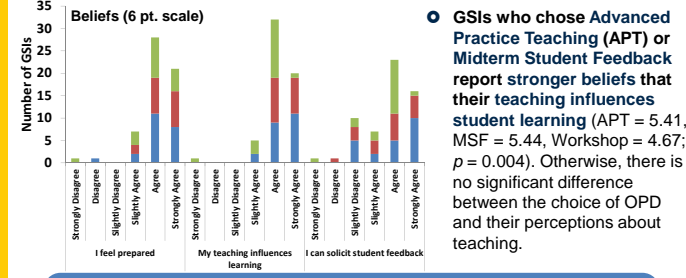
- The midterm student feedback (MSF) received the highest mean score (4.95/6.0), but there is no significant difference between categories.

GSI Confidence & Beliefs

Overall Engineering GSIs are confident in their teaching abilities with mean ratings of 3.23/4.0 on the College Teaching Self-Efficacy Scale, CTSES, (Prieto, 2006) and report positive perceptions about teaching.



- GSIs who chose a Midterm Student Feedback session (MSF) report higher confidence with preparing teaching materials (MSF = 3.72, APT = 3.18, Workshop = 3.20; $p = 0.014$). Otherwise, there is no significant difference between the choice of OPD and level of confidence.
- GSIs who chose Advanced Practice Teaching (APT) report higher confidence in their ability to promote participation (APT = 3.41, MSF = 2.78, Workshop = 3.20; $p = 0.015$). Otherwise, there is no significant difference between the choice of OPD and level of confidence.



Overwhelmingly GSIs are satisfied with their choice of ongoing professional development. The Midterm Student Feedback and Advanced Practice Teaching sessions result in greater gains of select self-reported confidence measures.

References

- Felder, R., Brent, R., & Prince, M. Engineering instructional development: Programs, best practices, and recommendations. *Journal of Engineering Education*. 100(1), 89-120.
- Prieto, L. (2006). *College Teaching Self-Efficacy Scale (CTSES)*. Retrieved from <http://www.uky.edu/~eushe2/Pajares/CTSES-Prieto2006.pdf>.
- Wlodkowski, R. (1999). *Enhancing adult motivation to learn: A comprehensive guide for teaching adults*. 2nd Ed. New York, NY: John Wiley & Sons.