

AN EXPERIENCE WITH TEACHING SQUARES

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Introduction. *Teaching Squares* is a technique which was developed in 2001, is now used at numerous universities worldwide, and is aimed at informing and improving teaching [1]. It uses a process of classroom observation combined with personal and group reflection, while being free from the pressure of peer observations typically performed for the purpose of evaluation. For the initial trial of this technique at Nazarbayev University, three groups of four professors each (3 *squares*) were selected from across the university. We report the experience of our *square*.

Methodology. We began the process with a meeting to discuss our goals for the project, our current teaching challenges, and the logistics of the classroom observations. For the observations, each person visited one session of a class of each of the other three, such that each person visited 3 other classes and was visited by an observer up to 3 times. More discussions occurred with each observation, and reflections were shared in person and electronically.

Results. Although three members of our square teach in the School of Science and Technology (SST), we found that we had four distinctly different teaching styles, tailored to four distinctly different student populations and driven by scientific discipline, as shown in the table below.

Subject	Student Population	Primary Teaching Technique
Biology	~80 non-SST students	Lecture using PowerPoint slides with numerous real-life examples
Education	-15 first-year graduate students	Brief lecture combined with guided discussion and significant student-generated content
Physics	~25 first-year SST majors	Lecture with notes and formulas written on whiteboard combined with some hands-on demonstration
Computer Science	-25 second-year CS majors	Brief PowerPoint lecture combined with hands-on laboratory exercises with one-on-one guidance

Conclusions. Despite the different styles and audiences, we found that the students were being engaged in all cases. We learned that interaction can be effective in multiple ways: through empathy, through humor, through encouraging students to think critically and reflect, and through offering individual suggestions. Our discussions revealed that despite our different settings, we all face similar challenges, i.e. teaching for the first time in our professional careers in a non-western academic setting. Overall, this experience has served to inform and enhance each of our teaching styles, as we have considered how to employ observed strategies in our classrooms. Observations across disciplines and across student levels appear to be effective. Further research is needed on how the *teaching squares* experience might benefit squares of teachers with a different mix of backgrounds and experience.

References.

1. Wessely, *et al.*, What Participants Say about Teaching Squares, 206.62.142.44/html/lib/suppmat/ts/tsbrochure.pdf, last accessed 03-11-14.