

**Book Review*****Small Teaching: Everyday Lessons from the Science of Learning***

by James M. Lang (2016)

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Improving student success and retention is an important topic, and one that certainly benefits from intentional institutional and programmatic change. Often retention initiatives result in the complete redesign of courses, and in the incorporation of various support services in correspondence with the curriculum. In *Small Teaching*, James Lang presents a different perspective on the topics of student success and retention, albeit a bit indirectly. What Lang is proposing is a set of small changes that instructors in any subject can incorporate into their classes to “spark positive change in higher education” (p. 5). The change that Lang is considering revolve around student retention of course concepts, and their ‘basic intellectual skills’ which provide them a foundation for success after their college career is over. What is more, these ‘small teaching’ strategies do not require restructuring of classes, or the development of new resources. What Lang has done brilliantly is to apply various advances in the learning sciences into 5-10 minute pedagogical interventions that can be used one time (or more) to modify an existing course, and which result in increased student learning. There can be no doubt that these practices would also increase student success, satisfaction, and retention.

The book is broken down into three sections. The first section extrapolates recent advances in cognitive psychology onto the college classroom. Lang rightly points out that college faculty are often more interested in 'higher order thinking' and so skip over activities and strategies that will help students remember and understand the basic concepts of their discipline. The problem with this approach has been already noted by Dan Willingham, who points out that students must bear in mind things in order to think about them using higher order strategies (p. 14-15). One set of strategies that Lang suggests in this section center around providing the conditions in class for students to actively retrieve information that they have encountered previously. Examples of this approach include frequent low stakes quizzing, student led review at the beginning of class, or having students summarize the main points of the class period at the end of the session. Another set of suggestions extrapolates the benefit of prediction on the development of student memory, and suggests pretesting at the beginning of the unit or section, or stopping part way through examples or problems to ask students what they think happens next. The final set of strategies in the first section covers interleaving. In this chapter Lang combines elements of distributed practice with interleaving, and suggests an alternative way of structuring the material covered in class wherein the topics covered are spaced out and mixed together.

The second part of the book covers 'small' changes that focus on developing student understanding. Lang is looking to move past a simple understanding of 'active learning'

defined as getting the students to do something, and is pushing towards a pedagogy that is intentionally designed to doing the kind of things that increase comprehension and acquisition of complex cognitive skills (p. 85). The first chapter in this part focuses on designing activities to help students create connections between what they know or have experienced and what they are trying to learn. In this vein, Lang suggests polling students' about their prior knowledge of subjects, encouraging students to create concept maps illustrating various organizations that could be applied to material, and letting students provide examples from their own experience that will help assist in the understanding of the concepts being taught. The second chapter in this part focuses on the type of practice that students do in class, and advocates for the continuity of the kind of thinking required of students through the course. The next chapter covers the benefits of self-explanation. Lang suggests that allowing students the time to explain their thinking, either to themselves or others, increases knowledge particularly when coupled with intentional feedback.

The third part of the book covers various non-cognitive aspects of learners, as Lang points out, "asking students to predict and retrieve or self-explain won't get them very far in their learning if they truly don't care about the course material or if they believe that they are incapable of learning from it" (p. 163). Several 'small' strategies are suggested for increasing student motivation, including getting to class early with the expressed aim of getting to know students, structuring introductions to content pieces or class sessions by eliciting student emotions, providing frequent reminders of the 'big picture' of the class or

unit, and being authentic about the enthusiasm you have for the subject you are teaching. The second set of strategies in this part of the book covers growth, and is based in part on the work of Carol Dweck about Growth and fixed Mindset. Lang suggests providing early opportunities for success, offering rewards for improvement, being honest about your failures and setbacks, and using the growth language of 'yet' in the feedback you provide to students. The final chapter covers expanding the course, or at least the lessons it teaches into 'real life.' To this end, Lang focuses on the benefits of activity-based learning, service learning, and in class games and simulations. These changes are a bit bigger than the other five-ten minute interventions that Lang has proposed through the book, but he does a good job of showing a range of adaption of these concepts.

Lang's, *Small Teaching*, is an excellent book – particularly for those interested in student success and retention. He has accumulated a list of several significant strategies for the improvement of student learning in class which are backed up by current research in learning. The other big advantage of the suggestions included in this volume is that they do not require the fundamental restructuring of class, neither do they necessitate hours of preparation. I would suggest that simply reading through this book will provide many obvious applications of the 'small' strategies he suggests. Further, it is evident that the incorporation of these techniques, however thorough, will increase student learning, satisfaction with class, and retention. This book should therefore be required reading for any faculty member interested in promoting student success and retention on their campus.