

Teaching Statement

Mounir Assaf

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As a young researcher, I aspire to communicate ideas to broaden the depth and breadth of scientific knowledge. As a result, imparting knowledge and skills is at the center of my activities, whether I am conducting research, giving a talk or engaging students in a classroom setting. This statement emphasises the philosophy and techniques I rely on in each one of these three activities, in order to **undertake teaching** with the goal of inducing **successful learning**.

In my research, I seek attainable and easy-to-understand formalisations or specifications of a problem, since understanding the problem is one of the most important steps towards finding a solution. Often, such specifications require greedy simplifications, e.g. by ruling out corner cases, and only presenting the full complex version in later investigations. Such simplifications enable me to strive for pedagogy by conveying the most important intuitions and insights to help readers, listeners and collaborators understand the core of the problem.

While presenting talks, my dynamic and interactive style fully engage my audiences. Typically, after presenting a simplified version of a problem either by generalising from examples or relying on graphics for intuitions, I ask a few questions pertaining to aspects of the problem I have, initially, purposely abstracted away from. By these questions, I push listeners to reason by themselves, and reach out for low hanging fruits to further understand both the problem and solution. In addition, such questions and the ensuing discussions offer a chance to pinpoint shortcomings in my presentations or gaps in my audience's knowledge that ought to be addressed, before adding more building blocks towards the fuller and more complex context.

As a graduate teaching assistant at Paris-Sud University during my Phd, my initial contacts with students were enthralling; they made me realise the importance of the responsibilities entrusted to me. I enthusiastically reached out to engage all students, irrespective of their heterogeneous backgrounds and levels. During both recitations and laboratory sessions, I employed techniques that I witnessed from great professors who have marked my own education: probing student questions, responses and comments; repeating the most important concepts several times through different formulations and angles; encouraging critique and free-thinking to help students develop and learn reasoning and analytical skills; emphasising independent problem-solving and encouraging students to get involved, rather than coasting through. I also volunteered to participate in teaching duties whenever possible, e.g., by making and reviewing assignments, organising exams and grading them, supervising student projects, and actively giving and seeking feedback from both students and professors. Through these duties, I gained more teaching experience and bettered by teaching skills.

My strong enthusiasm for communicating ideas with pedagogy, engaging students and feeding their curiosity, as well as mine, will prove valuable to induce successful learning.