How to Teach Students Who Are Not Mini-Mes (and Don't Want to Be)

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Abstract

We conducted a roundtable discussion at the 2022 Lund University Teaching and Learning conference on "How to teach students who are not mini-mes (and don't want to be)" with the goal of creating the opportunity for teachers to meet, exchange experiences and build coalitions. The focus was on what individual teachers can do both in their own classes and to change the university teaching environment, even without formal leadership roles in the university. We here present a summary of the conversation and the tips gathered at the roundtable.

Introduction

University teaching is often described as either an apprenticeship model, where students strive towards the role modelled by the master (Collins et al., 1988), or as a Community of Practice (Wenger, 1998), where students

become part of a community that is employing a shared practice to further a common domain of interest (Wegner & Nückles, 2015). In engineering education and other disciplines, instruction has changed substantially over the last century, as it moved from training on the job towards much more theoretical university education, where it became dominated by "career academics" over practitioners as teachers (Forster et al., 2017). Yet, teachers often implicitly assume that students will follow in their footsteps, and teaching is thus often tailored more towards creating new career academics than practitioners. Due to social homophily, access as well as success is easiest for students who already have similarities with, and can see themselves becoming like, the teacher, i.e. those students in which the teachers might recognize their younger selves (in the following called "mini-mes").

But what about students who come from different cultural backgrounds or educational trajectories than their teachers, or don't want to be shaped into the traditional mould of their 'masters'? In a context of widening participation, internationalisation and lifelong learning, we need to consider that our students may need a variety of teaching and assessment approaches to participate fully, and to show them how they can contribute to our classes. We need to support them in being and becoming who they want to be (Wenger, 1998), whether that is mini-mes or something different and unfamiliar to the principle of social homophily (McPherson et al., 2001).

In the following, we give suggestions for how to address this challenge in two parts, based on two discussion rounds at our roundtable discussion: In how we can design our own instruction, and in how we work to influence the university teaching environment, to become/stay welcoming to a diverse student body.

Designing instruction for a diverse student body

First, we need to recognize that the playing field of academia is by no means level, and that the rules of the game are not obvious to everybody in the same way. Students who don't have access to narratives of "what it is like to study at university" at home or in their networks face challenges

that are hard to imagine for teachers that come from academic families. One of the authors told the story of their first visit to Lund University Library as a new student, when they had to step out again and catch their breath because the experience of entering into this environment was so overwhelming and they felt so strongly that they did not naturally belong there. Another author practically grew up in a university library where both parents were studying at the time, and never experienced a similar awe for academic institutions. And we heard the story of a student group where for some members it was obvious what they should focus their energy on, based on what they saw was relevant to the teacher, while for other members it was impossible to pick up on the teacher's clues because they did not even realize that they could look for clues in order to optimize their efforts in the first place. This illustrates that if we want to create an inclusive university, we need to make sure that we remove thresholds that arise from different starting conditions, for example by explaining terms like "office hours" as the times when we welcome students to talk with us (Felten & Lambert, 2020), and by making sure documents such as the syllabus contain all the relevant information (Gin et al., 2021[1]). We need to also be careful to not send messages about "who belongs" through design choices in learning outcomes (Stadler et al., 2000), textbooks (Taylor, 1979), role models (McIntyre et al., 2003), or the physical environment (Cheryan et al., 2009).

We can help by debunking the stereotypes that incoming students may have about what they need to live up to. At the Faculty of Engineering, Lund University, we know that beginner students' self-perception in general does not match up with what they think a stereotypical engineer can do (Soneson & Torstensson, 2013). We can have conversations with students in which we normalize talking about struggles and strategies to overcome them and thereby instil the norms that difficulties are normal, temporal and surmountable (Hammarlund et al., 2022).

Students who feel different from a real or mythical norm may always feel that they don't quite fit in (Hindle, 2021; Islam et al., 2018; Miah, 2019), but can become very competent at covering up their difference,

1 Find their excellent template here: https://zenodo.org/record/4317968#.Y8EIaC8wof8

instead of feeling that it is valued and that they can make different contributions to the university environment and culture. Individual teachers can help here by talking about their personal commitment to hearing different voices, trying to learn about individual experiences (admittedly difficult in large classes), and encouraging engagement with positive reinforcement of students' contributions. This doesn't mean accepting all ideas uncritically, but rather thanking students for contributions and then encouraging them to develop their ideas. Feedback, especially when given to a historically marginalized student, should include a statement of the teacher's high expectations as well as their belief that the student can meet them, so that students act on the feedback and don't assume it's biased and meaningless (Cohen et al., 1999). This can easily be scaled up for large (online) classes through automated personalized feedback (Lim, Atif, Farmer, 2022). Generally, making students feel seen is an important contributor to student success, and it can be achieved even in large classes by means as simple as asking students to put up name tents (Cooper et al., 2017).

Active learning is an approach which "engages students in the process of learning through activities and/or discussion in class, as opposed to passively listening to an expert. It emphasizes higher-order thinking and often involves group work" (Freeman et al., 2014). A metareview of active learning research showed that active learning reduces achievement gaps for underrepresented students (Theobald et al., 2020). Underrepresented students are often historically underserved by higher education, perhaps because they are not mini-mes. Another form of student-to-student activity, peer instruction, better known at Lund University as PASS-SI (Peer-Assisted Supplemental Instruction) has also been shown to have a positive effect on learning outcomes (Dawson et al., 2014).

Heterogeneous student experiences and networks influence academic performance, which might be mitigated by making different opportunities available in the classroom. As well as active learning and peer instruction being effective for learning, in-class work is a relatively easy way for teachers to normalize student-to-student interactions. Creating opportunities for students to meaningfully connect in ways they are comfortable with has impacts beyond their academic achievements – students wish to

communicate with other students (Dyer et al., 2018; Oldfield et al., 2017), and teachers can facilitate that with the use of active learning techniques. For instance, Fjelkner Pihl (2022) has suggested that we can create opportunities for students to meet during classes through teacher-assigned groups, ideally early on and during low-stakes tasks. When assigning groups, we need to consider the learning outcomes and unless "being the only one of your kind" is part of the experience we are aiming for, it is better to cluster underrepresented students in few groups so that they have a critical mass within those groups (Stoddard et al., 2020). Of course, this will not be perfect and can only be based on what we know about students (e.g. gender, study program …) and intersectional aspects are not considered here. It is also important to demonstrate that all groups have equal value, and not to unintentionally isolate students (Leyerzapf et al, 2017).

It is important that students have opportunities to meet each other outside class as well, and these networks may be even more important than in-class ones (Wilcox et al., 2005). For instance, students who do not live in traditional student accommodation, and who commute to university from a family home, may find it difficult to complete group work outside of class (Alfano et al 2013; Miah, 2019; Thomas and Jones, 2017). They may need active encouragement to make this work, for example by using digital meeting tools, as well as reinforcement of their value to the university community, even if they are not engaged in the same range of activities as students who live on campus.

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