

Battles for Better or Prepare for Worse

Safety and wellbeing of researchers

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My PhD research is based on emulsion polymerization for waterborne based coating application using new potential monomer. I taught Basic Chemistry at Universiti Teknologi MARA (UiTM) and worked with nitrile latex manufacturer in Johor, Malaysia before enrolment at Warwick. During my second year of study, I joined lab demonstrating and got the opportunity to experience learning/teaching environment of the easing lockdown.

Abstract

This article discusses the pandemic's detrimental effect on research work in Chemistry department hence the effectiveness of more restricted safety implementation in the research laboratory as well as the teaching laboratory. Also, herein I share my experience having a head dive into laboratory demonstrating after being overwhelmed by my own research work, hoping to sail away from fear of failure and adjusting to the value of "unlearn to learn".

Keywords: laboratory demonstrating learning well-being mindfulness

Introduction

The COVID-19 pandemic severely affected researchers, students and staff of the chemistry education community that totally rely on laboratory-based work, together with billions of the world population. This unforeseen chaos forced the role of laboratory in chemistry teaching and learning through major adjustments upon the start of first lockdown. Reforming ideas coming from different parts of the world had introduced more virtual tools

(Talanquer *et al.*, 2020) into the curriculum and communication to ensure that ongoing teaching and learning processes were adaptable to the worldwide restrictions. In a post-pandemic chemistry course, an academic ought to avoid returning to "normal" practice in designing and implementing teaching and learning, and this "provides an opportunity for deep reflection, and intentional action" (Talanquer *et al.*, 2020:2696) about what and why we teach, and how we could best facilitate student learning.

My personal experience doing demonstration

My involvement as a GTA in the Chemistry department started after ease of lockdown, where students were allowed to run experiments in both research and teaching labs instead of just the research lab. Upon my acceptance to demonstrate, I was assigned into two areas: free radical polymerisation (FRP) for master's students, and 3D printing for undergraduates. Personally, it has been a huge relief that I started with the FRP, part of an advanced colloid module related to my main research work, hence some discussions with the module leader had taken place before I started to demonstrate for the first time. Since there were three of us who were going to perform the demonstration together, these prior discussions had helped us to efficiently delegate the tasks that needed to be carried out during and after the lab sessions.

As well as restrictions that were set to the research laboratory, teaching laboratories were also set to a standard that were well-organised and fully prepared to accommodate teaching and learning in a safe manner for both students and instructors. It is compulsory for students to wear personal protective equipment (PPE) once they enter laboratory, thoroughly wash their hands, and change their mask. Teaching staff prepared both apparatus and chemicals for students beforehand, based on the requirements of the module leader and each student is allocated with a fume hood. Since I am the only who is new to demonstrating, my first day started with me familiarising myself with teaching staff and the layout of the facility.

The GTA duties were not limited to just demonstrating an experiment, but also additional administrative and logistical duties before, during, and after the

session. For example, before the session, we would check that the chemicals prepared by teaching staff were sufficient for the experiment and also determine whether there was a need to source it out. During the session, we would demonstrate the techniques, make sure that the students follow safety and health regulations, signoff student laboratory logbook towards the end of session, submit samples on behalf of the students for analysis, as well as compile the experiment results. After the session, we would complete an online form assessing the students' creativity, teamwork, and other aspects.

One of the best things I look forward to about being a demonstrator was when the module leader conducting brief session on theoretical part of the experimentations before students started their practical work, I found it enjoyable that you get to learn/re-learn concepts in an environment outside the usual classroom, as you get to experience being both a student and instructor at the same time. The next best thing is when I get to share practical techniques from my experience with a group of enthusiastic people (meanwhile fingers crossed that I am not embarrassing myself by breaking anything). Going through this experience made me super grateful to be part of my research team and teaching staff as I have received abundance of encouragement and guide from everyone.

Nevertheless, I was really struggling with the stress that comes as part of the package of being a PhD student. It was just days before I completed my last demonstrating session, and I decided to leave my study after two years of having lots of things being bottled up. Looking back when I enrolled as a postgraduate student was just two weeks before the whole country went into first lockdown, and everything seemed fine until, bit by bit, things were falling out of place with

my social interaction and research work. I kept all the worries of disappointment, tried to be more resilient looking for an escape mechanism by travelling and still I am back to a state of being restless, tired, demotivated. This dire situation has been going on eternally and made me doubt my competency in chemistry-related, also in everything.

What do I need to bounce anew?

On the day I bawled my eyes out regarding my decision to leave my study, I was, miraculously, doing lab demonstrating for the full hours. I went through attendance list as usual and did some briefing on theory for the experiment and finished the with assessment as required, it just happened to be that my state of mind was prepared for teaching. To be granted with the opportunity of writing for the Journal of PGR Pedagogic Practice, pouring these little story details again made me reminisce that I am basically doing what I have been practising every day in my life. I stumbled into mindfulness practise and the concept introduced by Jon Kabat Zinn (1991), the founder of Mindfulness-Based Stress Reduction (MBSR). He mentioned that the pillars of mindfulness are made up of purpose, being present and no judgement.

Interesting research conducted by Harvard (Bradt & Writer, 2010) found that about 47% of people have their mind wandering, regardless of the type of activity they have been doing and unfortunately this situation keeps them from being happy. The present situation will get squished between reminiscing about the past and worrying for future

that probably not going to happen anyway. Learning process is greatly related to severity of stress and stress-handling as neuroprotective will reduce as a result of stress (Vogel & Schwabe, 2016), therefore practising mindfulness would be one strong tool to keep us in check. A positive impact of practising mindfulness includes improving communication skill, enhancing duration of one's focus, improving empathy, as well as reducing anxiety and depression (Currie, 2020).

Mindfulness practice is apparently not just restricted to meditation, but every other activity that you put awareness doing it, even just eating. My other side of view also is that its resonance with Islamic religious practice (Parrott, 2019; Hassan, 2020) such as performing daily prayer (*salah*) or remembrance (*zikr*). I believe that the price of success is never fixated at conventional intelligence (IQ) but also highly weigh on emotional intelligence (EQ), and spiritual intelligence (SQ). From this experience it would be meaningful that I embrace more on practising my mind to focus on things I have been doing and just be present. No matter how uncontrollable things turn out to be, I also need to learn letting go of any judgement and let God be my solely purpose.

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