The Development of Teaching, from Covid-19 to in-person Laboratory Sessions

A Reflective Piece

Tobias Slade-Harajda

PhD student, University of Warwick
Correspondence: Tobias.Slade-Harajda@warwick.ac.uk

Tobias is a 2nd Year PhD student studying an instability within a fusion plasma using the EPOCH code developed by Warwick University. He begun tutoring during Covid-19 and has continued teaching into his PhD by working as a 1st year undergraduate Physics laboratory demonstrator. Whilst finishing his Master's the quality of online teaching frustrated Tobias and made him realise how important in-person lectures were to the development of a student as a whole. Tobias often looks to his previous teachers as role-models for what he considers to be effective teaching and constantly reflects on his own teaching style so that he can develop into an effective and compassionate demonstrator.

Abstract

Teachers who began, like myself, teaching during the Covid-19 pandemic have had to adapt to multiple ways of teaching to accommodate the switch in demand of the student to different styles and methods. What was once dominated by in-person classrooms of 30+ students became a mix of independent learning and tutoring. Those who started their teaching journey through online one-on-one tutoring sessions bolstering up in-person classrooms, have had to adapt to the old method of teaching with students who are used to hiding their faces and muting their microphones. In this article I discuss how my method of teaching has changed, my opinion on the importance of physical presence in a classroom and what we can learn from the teaching styles demanded by the student.

Keywords: Reflection, Brookfield, Tutoring, Covid-19, Engagement, Training

Introduction

My teaching journey started on 16 May 2021 after I completed the MyTutor introductory course and became a certified online tutor. I had some free time after finishing my Master's and thought that tutoring struggling children aged 11-16 in maths and science would actually help me learn how to teach, plus provide me with some money on the side after the government funding ceased to roll in. I thought the sessions would be a simple one-on-one, with them working after school to improve their grade. Much to my surprise I was greeted in every one of my sessions by students who were already in school, during an hour the school had assigned specifically for online tutoring, with no camera or microphone, or rather an apprehension to turn it on. This layout was not unheard of in tutoring but was most definitely a new experience for me.

A few months of this style of tutoring made me realise that the typical student going through their GCSEs or A-levels at that time had a completely different experience of being taught than I did. Due to the pandemic, they had to learn from their own home, watching videos (whether that be live or recorded) and provide homework via online forms. I was made more aware especially of the differences between a student before and after the pandemic after struggling to gain a student's attention whilst teaching an undergraduate Physics laboratory. The change between being online, being distant, to in person where you can be fully seen and heard, has allowed the student to listen without participating, and forced me to adapt to the changing demands and expectations of the students. This forms the backbone of student-led teaching, something I was not entirely familiar with.

Reflective pieces can be an extremely useful tool in analysing one's own improvements and remaining weaknesses. My motivation for writing this piece is to reflect on the development of my own teaching style as I progressed from tutoring one-on-one students leading up to their GCSEs throughout the pandemic, to in-person undergraduate Physics laboratories as a Graduate Teaching Assistant (GTA). In this reflection I will discuss Brookfield's four lenses (Brookfield, 2002); a useful tool to consider all interested parties in academia. I will touch on what I can do to improve for the next cohort of undergraduates and discuss the advantages of keeping a flexible teaching style. I will finally conclude with how my teaching style has evolved to be more student-led.

Styles

Tutoring online for schools was difficult. The majority of the children aged 11-16 I taught were distracted, disinterested in the material and unmotivated to learn. For some students, trying to gain their attention when they didn't have or use a camera or microphone, was near impossible. The distance the screen created between the tutor and tutee broke down the authority that a teaching figure typically has. The training for teaching online was sparse. MyTutor offers a number of mandatory courses before you are certified to teach on the platform, but once I started teaching, I realised they weren't wholly applicable to teaching children in schools. Training centred around student involvement was intended specifically for solitary students in a room with few distractions. What I had learned from the training could hardly be utilised, and my style instantly fell into that which I was most familiar with - teacher-led and rigid. For the students that did partake in lessons, a typical session primarily involved going through their homework and answering exam paper questions. The main input from the student was what they struggle with the most and what they want to focus on. It suited the online structure quite well, where we

were limited for time and surrounded by a myriad of distractions from their peers. Was it the most effective form of teaching? Of course not. But it did allow for the largest quantity of learning that they could attain in the one-hour lesson they had a week with me. This was an example where my lack of experience at online teaching correlated with quantity over quality.

Once I started my PhD at the University of Warwick, I applied to teach undergraduate laboratories once a week, both as training in teaching physics specifically (as opposed to the broader subjects of "maths and science") but also to earn some extra money. Teaching laboratories, as opposed to marking homework, allowed me to continue my own research whilst the students were away with the session and didn't require help with tasks such as computation or plotting.

Graduate Teaching Assistant (GTA) induction training was diverse and even touched on key theories behind learning, developing good pedagogic practices and was where I first learnt about developing one's styles of teaching to suit multiple purposes. The training, albeit limited in length, gave particular focus to an enlightening slide titled "Brookfield's Four Lenses", which touched on viewing any teaching session through the "lens" of the teacher, student, peer, and scholar (Brookfield, 2002). This fostered within me the idea to view teaching through the student's eyes rather than purely my own. Already more fleshed out than the online tutoring training I had, this did not set one idea of teaching as the norm, but rather allowed the individual to develop their own style, constantly evolving through some Darwinian process that took into account the changing demands of the student and the educational scene.

There was some inertia on my part in my teaching style. There was already a divide between my experience with online teaching and the laboratory group sessions I opted for - rather than working individually with students, I had to captivate an audience. For a while I managed to get by with an introductory talk about what the experiment would be about and then go around individually dealing with questions. Soon I realised that oftentimes there were common issues which needed addressing to the whole group. So, I started to incorporate mini "lectures" where I would bring their attention to the front for 10 minutes or so after lunch to recap what we had done, what we had left to do, and cover some of the details behind the complicated tasks that most commonly tripped people up.

Herein revealed two learning points for myself, (1) a lack of eyes pointed to the front when recapping and going through their potential pitfalls and (2) my realisation that this was diverging more towards a teacher-led session and I was forgetting to look through the "student lens". To manage the first, there is no better way to draw attention than to ask for it. That being said, I am sure that getting the student's attention remains one of the primary issues teachers have and will always face. Secondly, although the undergraduates are new to this style of learning, I can draw inspiration from my peers' experience teaching, another one of Brookfield's lenses labelled "peer". Doing this I started learning what my peers did well that I didn't, how that altered the student's ability to learn and why it was a more comfortable teaching style.

Speaking to my peers about their style of teaching, a common theme followed of breaking down the teacher-student barrier through acting more like a student who happens to know the experiment. This was something I didn't

often do as I was used to behaving like a teacher over a Zoom meeting. It was my own experience teaching behind a camera that influenced the way that I interacted with these in-person students, and which perpetuated the silent student archetype and the reluctance to interact. To combat this, if I wanted a more interactive group who were more unabashed than before, I needed to set the tone for the session, letting them know it was okay to be wrong and to try anyway. I couldn't expect them to lead the session themselves as they were, after all, students.

Learning what teaching style works and what doesn't through the peer and student lenses can inform the development of one's own style. It is imperative to question, however, the overall requirement of the University and the educational standard that follows after one's progression through higher education. Considering what the wider academic world expects of its students is the final lens; "scholarship". One key learned trait after getting a degree in Physics is the ability to work independently, solving complex problems and questioning how best to analyse data. Independence is something that cannot be taught and has to be developed wholly by the individual. Therefore, one might suggest that despite the best interest of the student, one should instead focus on encouraging the growth of the most important skills Physics can teach.

Discussion and Conclusions

It is important to look through these four lenses as they ask the same question: "what is the best way to learn?", under different lights. All four users of academia as identified by Brookfield have varying requirements, expectations, and opinions. In my reflections I have come to realise that there is no perfect balance between all four. There will always be some disagreement and no one user is more correct than the other. I think that the primary requirement of Physics is to question. Nurturing this attitude in students is a fine balance between current teaching standards and final expectations of the discipline. It is important in my own teaching that I remind myself of this primary goal and remember that students who are new to the University environment and its style of teaching require guidance. What I have learned throughout my teaching so far, is that there is no defined way to teach students. Practices change and as teachers we have to adapt to new styles of learning, combined with the expectations of the discipline. Through reflection, I learnt that my closed off teaching style, intended to foster independence, was not suited to a new generation of students, and that I need to be more open and engaging when running a laboratory session. In this piece I have discussed the development of my own teaching style, how that was influenced by the four Brookfield lenses and touched on the most effective style of teaching undergraduate labs in Physics, after a year of experience.

References

Brookfield, S. D. (2002), 'Using the lenses of critically reflective teaching in the community college classroom', New Directions for Community Colleges, 118, 31-38.