Office Hours Transcript

Hello and welcome to the 2020 teaching conference session for leading successful and popular office hours. My name is Harrison Parker. My pronouns are he/him/his and I am a G5 in ESE.

So let's get started.

Today we'll talk about what office hours are and why they're useful. We're going to talk about teaching strategies to be effective during your office hours and how to coordinate with your instructional team to get the best out of office hours and their implementation and then we'll talk about logistics of how to set them up so by the end of the session you will be able to practice effective teaching strategies for office hours, coordinate office hour content with your instructional team and maximize your office hour attendance with a clear plan.

The goal of office hours. And the question comes up, why do we have office hours. The goal is to provide guidance and support for the learning of course material. Office hours serve to create a space where students can ask questions and address areas of weakness in the course. We likely already have lectures that have very formal information transfer and all the students around with the professor or the lecturer. And then you also have recitations which tend to be focused and planned and have also their own learning outcomes. And office hours, kind of fills the gaps in between. They are a lot more flexible that can be as casual as a Q and A or conversation. Or they can be as formal as a review for an exam or a session to go over homework solutions.

They're also a place for students to come and have discussions, based on the logistics of the course if they have any issues if there's something else that needs to be addressed that maybe not is not part of the course material itself.

So with that in mind, let's start talking about the teaching strategies. So we're going to start off by looking at some possible office hours situations. Feel free to pause the video here and read through these and think about the answers that you might come up with or write the answers to these questions, but we're going to go right on through. And we're going to discuss these and then discuss teaching strategies to address these and come back to them. So going to read through them real quick situation one the homework is due tomorrow you expect nearly everyone in class to attend. What do you do? Session situation two, a student comes in with broken code and has no idea how to debug it. What do you do, and finally situation three people tend to come into office hours sporadically The most recent group comes in and ask the question that you just finished answering for the second time. What do you do? That one hits it happens all the time.

So, before we answer these questions. Let's look at some terminology and some idea ideas that we can use to address these situations.

So we have, I'm just going to go through, through these one on one. Feel free to pause, Google, or do whatever you need to understand these as well.

Scaffolding. So scaffolding uses aids to build a framework for understanding. A lot of the times questions in a problem set, or an exam or even just material itself will say go from A to Z. That's a very daunting task and students can not quite grasp how to get there, or understand why. So if you give them a well how do you go from A to B and then how do you go from B to C, etc. You can give them little points along the way that can guide their learning so that they understand how to move and why through a question.

Asking questions. Push students to think outside the box and connect ideas to solve problems. This is one of my favorite ones because it takes the agency off of you. And allows them to reflect on the knowledge that they already have. If a student comes in and expects you to lay out the information that they need to solve the problem. It cannot actually help them learn and oftentimes if you ask questions. You say, Well, how did you get to this point, or what assumptions Did you make sometimes the misconceptions the students had click and they understand more. They understand their own misconceptions better and can make sometimes answer the questions themselves just by you asking those questions.

The next one is transparency so clarify for students, why their problem solving strategies do or don't work. And this kind of goes in line with scaffolding as well where you know sometimes to make. To get to a solution for a problem, you have to make assumptions or this. This comes up a lot in derivations well…. There are two variables here. We have to get it down to one. So if we assume this variable is constant…. And it's not often clear if you don't know the material already why you would make that assumption. So, transparency is a really good tool to use when you when you say, "okay well you can assume that the temperature is constant." And if you ask if you can ask a student why and or just say, Well, you know, we can make this assumption because the temperature varies by maybe 1% and that's less than all the other things are varying. So in this case, this assumption holds and it's very important to also point out where these things break down and that that's part of transparency as well.

Next is self assessment use tools like surveys quizzes or questions to help students assess their own progress. This is also very useful in terms of remote learning because it's so difficult to necessarily gauge students, one on one or in a classroom setting.

Zoom has the wonderful tool for polls. So if you have questions that you know are going to come up where key points that you definitely want to hit in your office hours and understand or and have the students understand. You can create polls to have students answer the questions and if everyone gets it right. That's fantastic. But if they don't, then you can go back to that point, we reassess how people are understanding it, and then do the poll again to understand, to see if people understand why the answer is correct and go forward. This is also very helpful in terms of understanding where students are coming from. At the beginning of class. So if you have questions.

Surveys in questions in your survey that are preconceived or like that our knowledge that they need to go forward in the class then it'd be very helpful to understand as an instructional team, how to move forward with these different with this different material.

Then there is peer teaching. So get the students who know the material to teach the students that may be struggling and then check in on the progress. This is also a really great tool because it does take the agency off of you in the sense that

You don't have to teach everyone everything all the time, and it can create a community where the students understand that they can help each other. And this is a collaborative environment, as opposed to you know your cutthroat, you know who's setting the curve, kind of mentality. So this happens in the office hours, a lot and you can put them into different zoom breakout rooms or I think that peer teaching happens a lot, especially remotely in discussion boards. I'm a huge fan of the Piazza applet tool thing and I think that Canvas also has one as well. And those are very helpful for making things asynchronous, but also allowing for students to talk to each other and maybe clarify where there might be an issue.

Finally, we have assessing prior knowledge. So figure out where the students what the students know so it can be built off of. I talked about this a little bit in self assessment, a little bit in transparency. But if you don't know where the students are coming from. It's sometimes hard to understand where the misconceptions can come in. So if you can ask the questions or give the surveys to understand, well if students know calculus really well, then they can do this homework assignment. But if they don't know calculus, then how do you teach those concepts to them without having a whole bunch of extra work being put on them.

So now that we have some effective teaching strategies. Let's go back to the situational discussions. So back to the situation, what the homework is due tomorrow you expect nearly everyone in class to attend. What do you do now, I'm going to give my opinion or some different options. These are the these are not by any means the end all be all parts of this or answers to this. But we have some different possibilities. So if the homework is due tomorrow you expect everyone in class to come, you can give different polls in the zoom office hours with to understand where people are, you can ask the students where in the homework assignments the most people have issues.

There's a tool called chat room flood where you get everyone to type in the answer to the question in this case. Which question do you have the biggest, Do you have a question on and then have everyone submit it. So then you get to see the chat room go through with all the different things and understand where students might need more work so you can focus on question two because 90% of the people need to talk about question two, so you can structure your office hours that way. You can utilize peer teaching and say, Okay, everyone who has problems issues with question one or two, go to. I'm going to put you into this breakout room and you can put them into a breakout room and then allows them to talk on their own, while you're going to talk to another group of students about a different question and then jump in and check on them. And clarify any misconceptions that way, maybe by the time you get to that

breakout rooms. They've already solved the question they have they've already come to a solution and if they haven't, then you can help them along. And then the other. The other way that you are the other tools that you can use is assessing prior knowledge is understanding what misconceptions they have and if there is some sort of key component missing from everyone's discussion or from everyone's knowledge. That needs to be addressed as a group, as everyone in an office hour session or even sent in a clarifying email after the office hours, or in some sort of subsidiary discussion.

Right situation two, a student comes in with a broken code and has no idea how to debug it. What do you do. This is a personal... it's not it's not a pet peeve of mine, but it tends to be very difficult to do, especially remotely. Because everyone knows their own code, but no one knows someone else's code and it'll stop students in their tracks when they're trying to do their homework. So I like to try to debug codes with students as much as I can. But often it gets taxing and if you have to do it over and over again. It feels like you're also doing more work than you need to, or even more work than the students sometimes and I think that this is a key point to ask questions you ask questions to the student of where does your code write? Are the values that you're getting before it breaks, what you expect? And why or why not? Or do you have, have you gone through and made everything exactly as it needs to be, are your numbers Correct? Are your magnitudes of your numbers correct or here units correct? That's a big one. But it's also a good way to assess prior knowledge was an individual student. Do they know, say you're using MATLAB or Python. Do they know MATLAB or Python. And if they don't, maybe there are other resources that you can point them to that can help with those kind of discussions so that it's not all put on you and they don't feel like there is no help. But remote debugging is a little bit more difficult and I would suggest either sharing screens. If they're comfortable with it or sending their code. So you can try and run their code and sharing screens and kind of walking through things

Okay, so on to situation three, people tend to come into office hours sporadically. The most recent group comes in and asks a question that you just finished answering for the second time. What do you do? This seems like a question of, oh, well, I'm going to be very annoyed if you're not annoyed with it, answer the question the third time, and there's plenty of time and for the third time. If you're comfortable with that. This is another place where peer teaching comes in, use a very pure creation comes in handy if you can use breakout rooms to put different discussions for different problems, then the student can come in saying I have a or the group can come in. I have a question was number two. Okay, cool. You go into that breakout room and we can touch base later.

You can if all of the, you know, stars are aligning against you and you have very little time or you have to get to some other problems that you know are key, It's totally okay to say, hey, can you stick around off after the office hours, or can we discuss this in an email or at a later time. This is also a place where the discussion board is useful if you say hey post in on a discussion board, I will get back to you in a day or two, or an hour to whatever the timeline may be and allow for some other students to discuss things

If these questions, if this question is coming up for the second, third, fourth, fifth time, it might be a larger issue. And if you think that you're seeing a pattern in the misunderstanding of certain class material, then it might be worth sending an email to the class with clarifying, you know, clarifying material or just to clarify the issue. Or bringing up to your instructional team, saying, hey, this is an issue that's coming up more often. Maybe we should have a mini recitation about it. Or maybe we should bring it up in lecture, we should go about it in a more group dynamic way as opposed to just leaving it to individual to.

Alright, so we've learned a lot of effective teaching strategies and discuss some situations, let's talk about coordinating with the instructional team. The instructional team is or could be anything from just you as the TA for a lecturer or professor. It could be a co TA where there's two or more TA for the same professor and they're all trying to structure things. Or it could be that there is a head TA and a bunch of other teachers and trying to figure out all these things all at once. So I have some quick tips.

Depending on where you are, if you have a head TA, then maybe it's better discussion for the head TA or to clarify, ahead of time, but definitely ask the lecture about the expectations for office hours.

If the expectation is that will be a mini recitation. Every time and that there will be a material presented in the office hours that we really good to know as opposed to first or second week coming around and having to scrounge together material and put together some slides.

The other aspect is that the office hours tend to be a lot more flexible and are really wonderful ways at getting feedback instantly. Or just continuously between the students, the teachers and the instructional team. So I would suggest utilizing that as much as possible to update and give feedback to either the lecturer, the other team mates or the instructional team.

There have been many situations, at least in my experience where I know that students have had issues with certain issue material. And so I've given a heads up to the other teams. Hey, I think you're going to get a few questions about this or I think we should go about this in a different way, or unify how we approach these materials.

I highly recommend attending lectures. If you're unfamiliar with the lecture material or if you are familiar sometimes lectures change from year to year, and in all honesty, they probably should. But if something is updated or if something was presented in a different way than you may not have all the information you need. It also helps you keep in touch with what the students are seeing and thinking, and if you understand what's going on in the lecture and then something kind of is off, you can take a note and understand that if a student comes up with a question, you can be expecting it and say, yes, that was actually unclear for me as well and clarify this thing or give more feedback to the lecture.

It in my experience lectures are always very open to receiving clarification or feedback about where something just didn't seem right.

A big one is keeping notations consistent amongst the lecture notes or with the lecture notes and with the instructional team if one sees using fi and they're the ones using side and the other ones using you for the same notation, or the same idea. It can be very confusing. And you can actually, you know, the, the second or two or little bit that it would take a student to kind of connect those two things might be unhelpful or allow stop them from making the connections that are necessary to like getting key concepts. And then if you can solve the homework problems in advance if there are solutions from previous years, ask either the professor or a previous where or if you can find the solutions. There's no need to make more work for yourself and do each homework problem. If you don't need to but it is helpful to know what the homework problems are going to look like. That way when you get questions you can better scaffold, or you can understand how to give better transparency to the questions, especially when a lot of problem sets tend to have derivations or explanations of derivations and those can get very finicky on terms of where little adjustments are made in the understanding

So yeah, let's, let's talk about a couple more situations, again, feel free to pause the video and think, or write some answers. Think about write some answers to these questions. Otherwise, we're going to go straight on through them.

So situation one you find your, you find that the lecture materials and homework are difficult for most students, students struggle on almost every question you spend more than 16 plus hours a week on TA work, how would you improve the situation. So this is you know, it's a lot of work to be a TA, but it doesn't need to be more than you know 16 hours a week is a lot even for a single class that you're taking, let alone teaching.

So I think that this is a great place for feedback with the instructional team if there are other teachers I would check in with them and see how many see how much work they're putting into it and maybe there's a misconception there. If the students are really struggling and that's something that the lecture or the professor needs to know so that they can restructure going forward. This might be a situation in which the course needs to, you know, readjust what its own learning outcomes are and it isn't necessarily an issue on the student or TA side but without communication it's just more struggling through every question, etc. Again, these are not end all be all questions there aren't any end all be all solutions.

But on to situation two. So the professor has assigned homework problems that have little to do with the material covered and lecture, leaving the students last, how do you structure your office hours to help guide students . So this is a pretty common, at least in my experience situation where the lecture materials have to go over these really high level. ideas and theories and then when you have to get down to the nitty gritty of actually plugging in numbers and solving equations. Then there's some loss of, you know, something is lost in translation, as they say. And so if you know what that is, if you know the connections to these high level theories, then you can make things the homework assignment, more transparent. You can explain as they're going well. This these calculations that you're doing are actually directly connected to

this theory and you can try and ease some of that. You can structure office hours, specifically in a way where you scaffold. The homework assignment and ask questions in between to try and clarify some of these higher level lecture materials so well you we've done this and this and this. Why, what does that mean if you scale up to, you know, the, the theory level of things. And then if this is continuous, you can obviously talk to the talk to the library to talk to Professor the instructional team and try and remedy that situation before it happens.

Situation number three. So the professor is assigned a very open ended homework problem with many possible solutions, depending on which assumptions are made. This Professor also has not provided you the TA with any solutions or guidance. How do you run your office hours to help structure your students approach. So this is a little bit out of the scope of this question, but again, talk to the professor to the lecturer and see what assumptions you think the students should make and what the point of this homework problem is in the first place.

If there is a clear understanding of what should be done then then there you go. But this question is kind of assuming that you know it's the last minute you're coming up to the office hours and you don't know what to do so. If you can, if you have worked through a problem beforehand and you're able to try and come to some sort of solution where you know your assumptions, then you can kind of fall back onto that and teach the students that method while still recognizing that there are other assumptions be made. So being transparent about the assumptions that you are making and other ones that are possibilities. You can also make it a discussion in the office hours and say, okay, well this and being transparent saying there are a lot of possible solutions. Does anyone have or what are possible assumptions that we can make from this point. From this equation or so on. That way the students understand that it can be a creative space and then you can either come to a point where you say, okay, well, we'll follow this path. And then another key is to follow up. So it's great to have that discussion. If you have four different assumption paths that you can get to four different answers. If there is an answer that the professor was expecting, then it would be worth clarifying and saying, well, we had all these discussions and the assumption that we're going to go with is this first one because of a b&c, but the follow up is a very key component there. If the point of the homework problem is to be open ended, which I wouldn't necessarily recommend, it would be useful to say that outright and say, there are many different ways you can solve this, come to the solution that you find most effective maybe justify it. If that's a possibility for the homework problem. Have them explain why they made the assumptions that they made. And then go back and then again discuss. Which ones were good or better or etc.

Right. So we've gone through a bunch of different situations. We've learned a bunch of different effective teaching strategies, let us talk more about logistics so we're talking a lot about theory and strategy and the realistic part of things is that students will tend to come to office hours because they are so informal and they are kind of an extra added thing supplementary material, they tend to show up before homework assignments or do before exams are scheduled and after everything is handed back with feedback generally to ask, why did I lose points here, etc.

So consider the schedules of your other TA as you're learning, you know, your instructional team your students and homework due dates. If your homework are always due on Thursday, it might not be helpful to run your office hours on a Friday.

It is very useful to create a doodle poll, Piazza, any sort of poll to understand where people's schedules are open. I wouldn't expect a perfect time to always show up and just maximize it if you can. For those that can't make it to the official office hours, they can make you can

If you have the time, you can make personal appointments, where they can zoom with you at a different level or a different time. You can discuss things by email. Specifically, you can post things on to the discussion boards kind of lead more to that peer teaching thing. We during the march spring. The spring session when we were first moving to remote we use the discussion boards, a lot and it really helps.

With the asynchronous aspect of the class because we could answer questions immediately or if we were you know some people were asking questions at four in the morning. I could get to it when I got into like work at 9am got into work. So then, yeah. So then you have your office hours and it's happened to me a few times where just no one shows up and you're sitting on zoom just doing other work. And that's, that's okay too. If everything is going right there might not be a need for office hours. But it's always good to have them so advertise your office hours in the lecture and in the feedback if a certain student is having a clear problem was some concept, then you can say, hey, come see me in office hours there at this time. And advertise them in that way.

In remote teaching. It's kind of hard to return graded work during office hours. But if you can take a session. And if the instructional team is okay with it, you can take a session to go over the answer key. That would be very helpful for students that wants to learn why they missed some problems or what assumptions were better, etc.

If you can hold many recitations to cover other key concepts that were maybe missed in lecture and recitation, if there is some gap of material. Then definitely announce it during the lecture or if there's something extra maybe students really love this niche idea of isotopic, you know isotopic analysis and there were a bunch of questions on it. You can hold them any recitation to go over some of the cool ideas and get some extra feedback and some extra resources.

And I personally love holding review sessions in office hours, it tends to be well attended there tends to be a lot of good group discussion and it tends to really ease the overall stress before an exam. And it obviously tends to make students more aware of the concepts that they should understand if it's done well. Which should make it so that the students are actually learning what they need to, and it should show in the exam scores.

Yeah. And so then, from there the next steps are to visit teach caltech.edu for more research and resources on teaching remotely visit learned at Caltech edu for more resources on how to learn remotely. And then watch all of the other teaching conferences sessions available online if

you can, complete the online policies module and then please attend the teaching conference in person synchronous session on September 23 where you can ask all the questions either clarifying or answer or ask questions about how to do A, B, or C. Otherwise, thank you for watching and see you later.