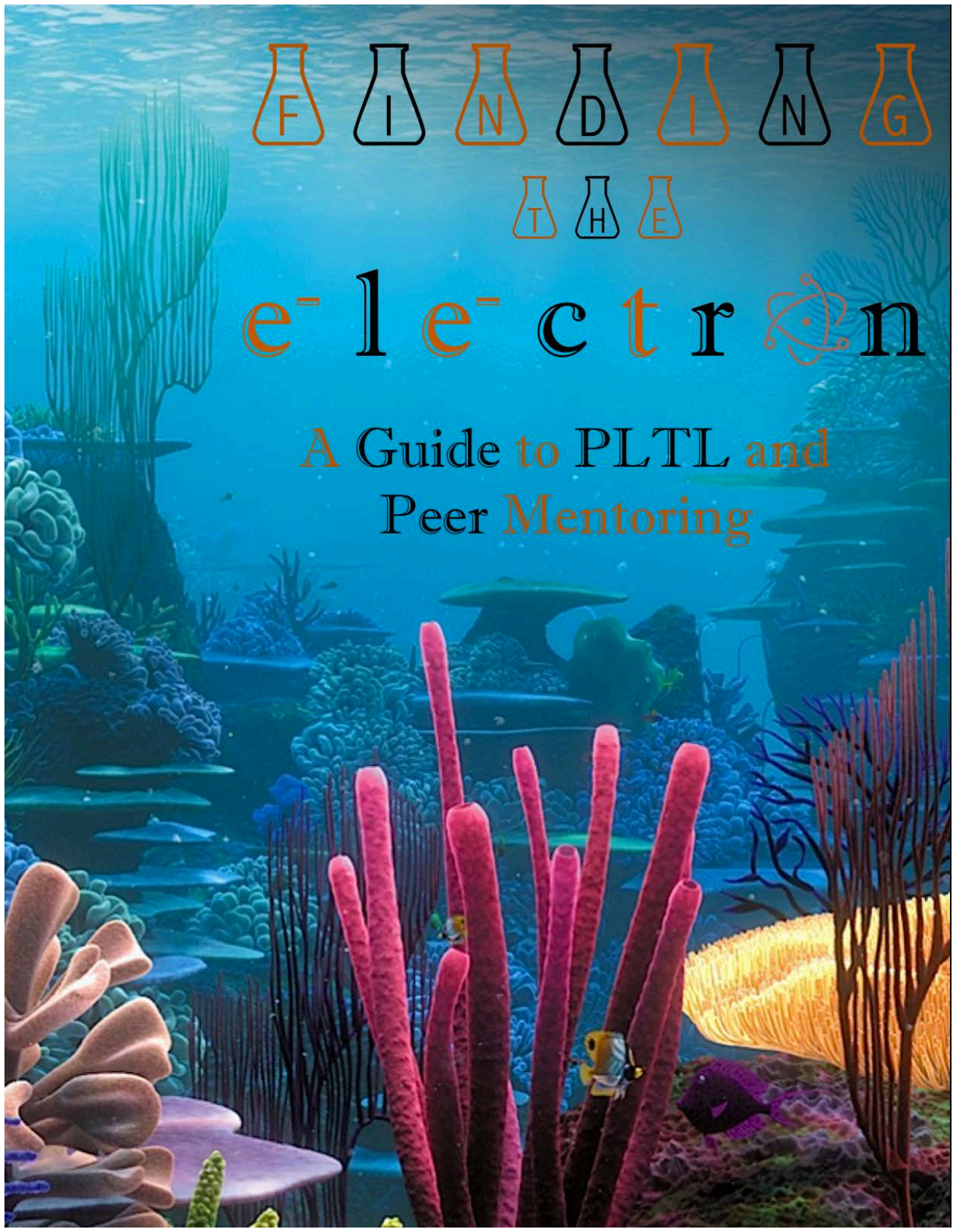


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A Guide to PLTL and
Peer Mentoring



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Introduction by Gabriela Szeinberg and Sarah Turecamo
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Introduction	pgs 3-6
M. Daschbach. 300 Lab Sci. WUSTL Way	pgs 7-13
Mharlove Andre	pgs 7-8
Sara Arfania	pg 9
Hannah Jia	pg 10
Nivan Lakshman	pg 11
Sara McCutcheon	pg 12
Akash Oza	pg 13
Peers are Friends, not Food	pgs 14-20
Harshi Gupta	pg 14
Alex Harris	pg 15
Devika Jaishankar	pg 16
Mehak Kalra	pg 17
Jenny Lin	pg 18
Abhishek Sethi	pg 19
Rachel Ye	pg 20
You Rock, Dude	pgs 21-26
Jeremy Fisher	pg 21

Sam Goetz	pg 22
Matthew Howard	pg 23
Katherine Nico	pg 24
Lanee Simmons	pg 25
Dustin Tillman	pg 26
Just Keep Swimming	pgs 27-32
Jeremy Fine	pg 27
Victoria Grabinski	pg 28
Emma Huff	pg 29
Emily Manin	pg 30
Kathy Recto	pg 31
Kimberly Rota	pg 32
I can't, I'm H₂O Intolerant	pgs 33-38
Ani Gururaj	pg 33
Ryan Hoopes	pg 34
Lauren Johnson	pg 35
Dominique Meyer	pg 36
Anurima Sharma	pg 37
Anne Wampler	pg 38

Introduction

Dear SAM students,

Welcome to Seminar of Academic Mentoring, Fall 2017 edition! And congratulations on being selected to be a PLTL Leader/Peer Mentor! We are glad to have you in this course. We're in for a fun wave ride.

Last year our now very experienced PLTL Leaders and Peer Mentors, who took SAM in Fall 2016, selected the theme of *Finding Nemo* for this book. Therefore, the title was selected to be *Finding the Electron*. This title aligns well with the objective of the Chem 111A course, through which we learn the story of the electron and how we have come to understand what it is, where it is, and if it allows us to "find" it.

Just how chemists throughout history have tried to come up with ways to find our elusive electron, and Marlin was trying to find his son Nemo, PLTL Leaders and Peer Mentors have to find ways to effectively facilitate their sessions. Every group is composed of different students; therefore a semester of PLTL and Peer Mentoring is a journey that is quite unique for everyone. Fortunately, just like Dory was there to support Marlin on his journey, the advice from the past PLTL Leaders and Peer Mentors will be there to guide you through your facilitation experience. This is the purpose of the SAM course and the SAM books. There are many experiences that are common to all PLTL Leaders and Peer Mentors, and advice on how to deal with each of these experiences is covered in the SAM books. During the SAM class time, we will also discuss ways to overcome challenges occurring in the PLTL and Peer Mentoring sessions.

We are in for a semester of discovery, failures and successes, and at the end you will all find your true PLTL Leader/Peer Mentor strengths, which you will continue to use (and expand) in future semesters. There are many past SAM students, your peers, who gained extensive knowledge throughout their first semesters of PLTL and Peer Mentoring and wrote about that in this and past books. At the end of the semester, you will pass on the advice that you learn this semester, in the form of a fresh new SAM book. This is the beauty of peer instruction. We rely on each other to keep learning; we learn from our community as we continue to build the community.

In *Finding Nemo*, there are several themes that relate to the journey you are about to embark on. Let's discuss each one, along with what you will encounter in each book chapter:

Fear of the Unknown and Achieving Independence: the First Session

Every year, new students take Chem 111A and take part of PLTL and Peer Mentoring. Chem 111A has a reputation of being a difficult course. This is why we offer supplemental programs, in order to help students learn how to solve problems, and learn and enhance good study habits. PLTL Leaders and Mentors help students by easing the anxiety of learning chemistry in a new way. At the same time, Leaders and Mentors have to help their students be more daring to be wrong when solving a problem. This is when learning happens.

In the first section of the book, "*M. Daschbach. 300 Lab Sci. WUSTL Way*", the PLTL Leaders and Mentors from Fall 2016 give advice on how to lead the first few sessions. The first session can be a scary situation for both students and the PLTL Leader or Mentor. **Hannah Jia** recommends to "prepare a short plan of how I [want] to start my session" and adds that "building strong foundations now (both in chemistry and in problem solving thinking skills) is essential, so let your first PLTL session be the start of that foundation!". **Sara McCutcheon** reminds you to be assured that you are the right person for the job: "you were chosen for a reason so walk in with confidence. You obviously have a strong understanding of the material, but you were also chosen because it was thought that you would be a strong leader." **Nivan Lakshman** agrees by stating that "The students will look up to you, especially on the first day, and you should set a proper example by appearing prepared and dedicated." **Akash Oza** joins in this vote of confidence: "Let your own personality influence the way you lead the session, and you are going to CRUSH it (pun intended)."

To deal with the first steps of your session, **Mharlove Andre** recommends to “really try to remember to know their names as soon as possible, perhaps through name plates or maybe playing an icebreaker that requires everyone to use other people’s names.” She then goes back to agree with her peers and says that “Even if you still end up feeling pretty nervous that day, just keep in mind that you were specifically chosen for this role out of many other qualified students. You have the capability to be a great leader, and you will be!” **Sara Arfania** provides a really nice summary of the experience: “Being a PLTL Leader [and Peer Mentor] is a wonderful experience full of learning and forming great relationships with your students.” Like Gill became a mentor for Nemo, you will become an important role model for your students and help them succeed.

Community is important, and a diverse group is strong.

You will have students with many different personalities in your groups. This is similar to all the kinds of species in the sea! In *Finding Nemo*, all of the sea creatures were working together to co-exist. And to a similar extent, this also happened with all types of fish in the fish tank at Dr. Sherman’s dental office. To work on fostering this co-existence and diversity in your own sessions, you can turn to last year’s PLTL Leaders and Mentors suggestions on how to handle the various kinds of people you might encounter. This is chapter 2: “*Peers are Friends, not Food.*” In particular, there is advice given on how to use the Collaborative Learning Strategies (CLS) as an advantage to handling different students’ personalities. **Alex Harris** reminds you that “the best thing that a Peer Leader can do is to stay observant and get to know your students” while **Harshi Gupta** continues by saying that “one of the most important things to remember is that YOU have the power and flexibility to amalgamate (*chemistry pun*) and evolve the different strategies to cater to each of your mentoring/PLTL sessions.”

Students with different characteristics may be asking for help in different ways. Students want independence, yet they may struggle with self-confidence and need reassurance from their Leader/Mentor. The belief from others helps us build our own trust, yet we need to help students eventually rely on themselves and be confident on their own. This is because, at the end of the day, they have to take their own exams! At the same time, overly confident students can bring some difficulties, but they are also seeking support. **Jenny Lin** states that “the whole PLTL philosophy is based on the fact that a team works together to solve problems; make sure that all your students know that the group requires the participation of all its students, not just a few dominant ones!” **Rachel Ye** helps out by saying that “fortunately, certain collaborative learning strategies work exceptionally well at taming the “dominant” student”. Additionally, **Devika Jaishankar** poses her advice on dealing with a quiet group: “while new leaders often fear the awkward silences that follow from a quieter group, I thought of it more as a fun challenge to devise new ways to ensure all students in the group were participating.”

As you get to know your students, you will be able to modify your sessions so that everyone can benefit from the learning environment. **Abhishek Sethi** adds on: “By working on the PLTL packet with your peers in PAM, you can discuss which CLS are effective and which probing questions can help enhance discussion amongst your group.” **Mehak Kalra** notes that “you are free to play with learning strategies in ways that will make your sessions as helpful as possible ... At the end of the day, don’t forget that the learning strategies were given to help us. Time went into choosing what strategy fit each question best, and although adapting them to specific situations is a good thing, remaining true to what you’re given will never lead you wrong.”

In general, you will learn to embrace the diversity of your group and how to use each of your students’ strengths to enhance everyone’s’ learning.

Try again, and again, and again...

As a Leader/Mentor, you serve as a role model for your students. You know a lot about being in college and succeeding in a rigorous course. In this section titled “*You Rock, Dude*”, Leaders and Mentors

give suggestions on how to foster a growth mindset. This requires embracing challenges, persevering through them, and continuing in that cycle with a confident attitude. There are also several resources available at the University, which can help students with having a growth mindset and finding support when necessary. You already know these resources and can teach your students about them.

Katherine Nico states a major problem that students encounter: "no matter how hard a student studies, sometimes confidence can be the hardest skill to learn." **Lanee Simmons** says that a good way to remind students that perseverance is important, is by sharing your own experiences: "as Peer Leaders/Mentors, I think it is good to offer our own Gen Chem stories and study strategies to our students, but it is likely that many people in your group won't learn effectively the same way that you do so I believe it is essential that we remind students of other resources on campus to help them better direct their efforts." **Dustin Tillman** agrees: "definitely don't be afraid to share some of your own struggles with the group: it humanizes yourself and lets students realize that personal progress should take priority, helping establish a growth mindset."

You have to be prepared to deal with students' dwindling confidence, as **Jeremy Fisher** states "before you could possibly foster an atmosphere of growth mindset for your students, you must truly embrace it yourself." **Alicia Liu** recommends to "make tangible goals for every session", while **Matthew Howard** specifies that "the key here is to give them the tools to improve, and to point them in the right direction", but **Sam Goetz** alerts "for the sake of fostering a growth mindset, it is imperative to take charge of your group and refrain from giving your students the correct answer ... all that you need to be comfortable saying is 'I don't know, what do you think?'"

It is very important to tell your students to not give up and continue trying, just like Squirt trying to get back into the East Australian Current (the EAC) and like Nemo when he had to go up the fish tank tube to help all of the fish escape.

Keeping along with the trying again theme, in "*Just Keep Swimming*", the PLTL Leaders and Mentors discuss how to deal with the mid-semester slump, which is simply unavoidable. We all go through it, but we can all survive it. In this section, Leaders and Mentors give you advice to survive the slump yourself, and how to help your students deal as well. **Jeremy Fine** recommends that you "may want to do a little bit more preparation before your sessions than you were doing at the beginning of the year." **Victoria Grabinski** complements by saying: "Don't let your group remember you as someone who was always stressing about the next Orgo test; let them remember you as a leader who mastered balance." **Emma Huff** recommends remembering the past: "transport yourself back to when you were a first-semester Gen Chem student and remember what that felt like", while **Kimberly Rota** suggests: "remind them of how far they've come and how much they have learned in Gen Chem. By putting this into perspective, your students will have some more hope that eventually they will be able to find that electron in that one-dimensional box."

Emily Manin "discussed the importance of keeping up with the material and my personal experience with getting behind and how stressful it was to catch up ... don't sweat it if your students come unprepared to a few sessions, but stress the importance of keeping up with lecture and don't forget to add in your personal experience." And **Kathy Recto** reminds you to encourage your students to make the best of your sessions: "emphasize to your students that the brain is like a muscle: it must be exercised in order to grow. By coming to PLTL and rushing through problems and not taking the time to fully understand a concept, students are wasting their time."

Just like Dory, a big adopter of the growth mindset, remember to just keep swimming. We can do it!

Trust

The overarching theme throughout *Finding Nemo* is to have trust. Remember when Marlin has to trust the pelican, a big predator, and jump in his mouth in order to survive? This also happens with being a PLTL Leader/Mentor. You have to trust in yourself, trust in your students, trust in the philosophy and the process of the PLTL and Peer Mentoring programs, and trust that the General Chemistry team and PLTL/Peer Mentoring community is here to support you.

Last year's Leaders and Mentors thought it was necessary to consider unique situations and finding ways on finishing strong. In *"I can't, I'm H₂O intolerant"*, you will find advice on how to lead your final sessions during the semester and how to deal with situations that are unique and least expected. Once again, your peers thought of everything so that you can have the best semester possible.

Lauren Johnson discusses challenging students, who "often cause difficulties in your PLTL environment, but if you handle each situation well then your group dynamic will improve which benefits all your students." While **Anne Wampler** gives an example of a shy student: "The smaller, more personal feel of a small session helped her address that fear because, when she was forced to speak, she discovered that she understood more than she thought. This was one of my most rewarding moments as a PLTL leader." And **Ani Gururaj** concludes: "PLTL is always about discovering the balance within the group dynamic, and while this can take time and work, leading becomes much easier once you find it."

Anurima Sharma warns to keep a clear and respectful line so student will respect your hard-earned authority: "while at first it sounds fun to have your floor mate, or biology lab partner, or someone else you know outside of PLTL as your student, it can be difficult to balance being a friend and being a leader during your sessions."

Dominique Meyer discusses the experience of subbing for another PLTL Leader/Mentor: "subbing may be uncomfortable, but I learned so much more about my abilities as a PLTL leader through subbing for another group. It is much easier to see what strategies work well, where your weaker spots are and gives you room to try fresh ideas with a new group." **Ryan Hoopes** agrees: "Ultimately, if you continue your successes as a PLTL leader, it is inevitable that you'll have new groups to lead in the future. Best to feel comfortable with all new faces now. At the end of the day though, relax!" and then gives his final encouraging words: "Finish up on a strong note, and motivate your students going into their last midterm and their final!"

This semester is going to be great! Come to SAM ready to open up and discuss, and remember that next year your advice will be shared with the future generations of PLTL Leaders and Peer Mentors. We look forward to your evolution this semester, and we are here for you. Let's work with our students to find the electron!

Happy Fall 2017!

Sarah Turecamo (Class of 2017) and Dr. G. Szeinberg

First day of school! First day of school! Wake up! Wake Up!**By Mharlove Andre**

Congrats on being selected to become a Gen Chem Peer Leader! Now that you're back from the summer and beginning a new semester, it's time to start prepping for your first session. Whether you have any experience leading groups of students or not, the goal of this essay is make your first session go as smooth as possible, with a few tips, tricks, and things to keep in mind!

First of all, if you are reading this before your session, nice! But even if you're reading it after, no worries. All the tidbits that I'll mention will be still be good for the second session and hopefully beyond! With that being said, the first piece of advice that I have for your first session (and pretty much all your sessions) is to read the assigned SAM book section before. All of the essays are coming from experienced leaders who were in your places only a year ago, so we have a pretty good idea of some of the challenges you may face or questions you'll have. It's a really useful resource and the essays are just here to help you!

After your first PAM class, you'll be rolling into the weekend of your first session. If you check your room assignment and don't instantly remember how to get there, maybe try walking to that area after your PAM class that Friday. This would also be helpful for getting an idea of the layout of the room so that you know how early you might have to arrive if you want to move some desks around and start thinking about how you want the layout to be if it isn't already suited to your needs. A few key things to remember to bring with you on the actual day of your session include your student copies of the packet, your peer leader copy, your writing instruments (either dry erase markers or chalk that you'll get in PAM) and food! The last item is optional but it goes off really well with your students, because right off the bat they'll be able to tell that you're trying to make a good first impression, so they will try to too. Some of them might have certain food allergies and might not be able to eat the food, but you can find this out at the first session so that you can plan accordingly the next time. These are just a few ways that might help you feel more confident going into your first session.

Once you feel a little bit more prepared, now it's time to prep your students! Most of them will be first years, and therefore won't have a good grasp of Wash U's campus or what PLTL really is. To help mediate this, send them a reminder email containing some of the following tidbits: Introduce yourself as their PLTL or Peer Mentor and tell them a little bit about your interests so that they're not meeting a complete stranger that weekend. Also be sure to TELL THEM HOW TO FIND THE ROOM AND THE MEETING TIME. This is so important, especially if it's somewhere on campus. If you had a hard time finding the room, just imagine your students! Also remind them to be caught up on lectures and have attempted the relevant problem sets, so that they have an idea of how questions in the class are usually formatted. This email could also be the place to ask if anyone has any allergies so that you don't end up bringing a food that someone can't eat.

If you're a PLTL Leader, on the actual day of the session, do make use of the time that's accounted for through the small length of the packet to get to know your students. Really try to remember to know their names as soon as possible, perhaps through name plates or maybe playing an icebreaker that requires everyone to use other people's names. I did a speed dating icebreaker that involved me making up a list of interesting questions, and every person had a different partner for each question that they discussed their answer with. It got everyone talking but it also eased the tone for any students who were feeling nervous (including me!) This was a great way to forget about any concerns I had about being a Peer Leader and leading students for the first time, so really enjoy the Ice breaker time.

Hopefully keeping in mind some of these tidbits will up your confidence when going into

your first session. Even if you still end up feeling pretty nervous that day, just keep in mind that you were specifically chosen for this role out of many other qualified students. You have the capability to be a great leader, and you will be! Good luck with your group and this semester!

Wake up! Come on, first day of school!**By Sara Arfania**

First off, a big congratulations on being selected as a Peer Leader! You have managed to get through two semesters of General Chemistry and have excelled greatly in understanding the complex material of the course. Even with all this experience, and if you are anything like most first time leaders, you're likely pretty nervous. It's important to remember now that you were chosen for a reason; be confident in your ability to be a great leader this semester!

To help ease your nerves, there are some things you can do in preparation for your first session. Priority one is to pay attention during your very first PAM session. In this session, you will go through the PLTL packet and come up with "probing" questions to help your students delve deeper into material. These "probing" questions truly define how well your sessions go and how comfortable your students become with the material. For this reason, it is important to be actively involved in your group's work to generate these questions. Once you come up with these questions, take some time to truly think about them. Think about when during the problem you would ask the question and what follow up questions you may have. If you do this, you're on your way to being the best leader you can be!

Another great way to prepare for your session is to get ready to make a great first impression on your students. Send them an email telling them how excited you are to be their leader. Maybe bake something or bring food to the first PLTL session. While those two things are optional, here is something that is not: a great ice breaker. Choosing the perfect ice breaker will ensure that your first session is a bit less awkward than it would have been otherwise.

Once you have prepared, sit back and relax. It is time to enjoy your first session as a PLTL leader! Being a PLTL leader is a wonderful experience full of learning and forming great relationships with your students. You were chosen to be a leader for a reason; be confident and have fun!

Building from the Sea Floor Up

By Hannah Jia

This is it, the moment that you've thought about since you've been accepted: your first session as a peer leader! It is a really different feeling being in charge of your own session rather than being a student in one; however, this responsibility and control is a challenge that you will soon learn to love. However, the first session is always nerve-wracking, especially if it is your first time leading an academic session. What will your group be like? What should you do in X and Y situations? In this essay, I will tell you about how I prepared for my first session.

Although it is difficult to prepare for everything, I felt it most helpful to prepare a short plan of how I wanted to start my session. First, I planned to hand out packets and have everyone make a name tag. Not only will they learn each other's names, but you can learn theirs quicker too! Learning names quickly (within the first half of the session, if you can) can be really helpful in building relationships and rapport with the students in your group. One of the best ways to learn names quickly is to use them often; when interacting with the group, try to use their names as much as possible. Next, I planned what introductory questions I would ask everyone to answer in a circle for preliminary introductions: name, year, and hometown are standard, but some of my favorite extra questions to ask are last text sent, last google search, and Friends character that fits you best. If you are short on time, going around in a circle with these introductory questions will suffice, but if you have more time I would recommend having another icebreaker. After introductions, I planned how to introduce myself: things I like, things I am involved in on campus, and some more personal things to help to start develop the casual and comfortable environment of the session. Finally, I planned out how I would introduce the PLTL philosophy to them, emphasizing the supporting learning environment of PLTL and specifically planning for questions that I felt might be asked, particularly the ones about giving no answers, and having notes for how I would answer that the purpose of PLTL is to really learn problem solving thinking rather than how to find the answer to a certain problem.

After the preliminary introductions, you will now start the packet. At this point, the session is more in your group's hands than your own, and you should let it flow without trying to control it that much. If they are struggling, let them struggle for a little bit before nudging them a little bit in the right direction. If they are cruising, ask them a few probing questions to develop their understanding further. Building strong foundations now (both in chemistry and in problem solving thinking skills) is essential, so let your first PLTL session be the start of that foundation!

Welcome to the First Session

By Nivan Lakshman

Congratulations on becoming a PLTL leader! You are about to embark upon a semester-long journey of learning, fun, and self-discovery. Before you arrive at your classroom for your first session as a leader, you will want to ensure that you are prepared for the first day on the job.

First, you will want to make sure you know where your classroom is located before the first weekend of PLTL. This may seem like a trivial matter, but you definitely do not want to get lost on the day of the first session. This is just one small step in the process of getting organized for the first day.

While the first packet may not be overly challenging, you should set a precedent by reviewing the questions before the session. You do not want to show up to a session clueless about the questions and concepts. The students will look up to you, especially on the first day, and you should set a proper example by appearing prepared and dedicated.

Aside from chemistry and concepts, the first session is also important because it is where you set the tone and mood that will carry on throughout the semester. If you want to implement ground rules, whether it be about a cell phone policy or otherwise, you need to get those messages across and in a clear manner. Initially, you may want to lean more on the stricter side, but that does not mean you have to shy away from creating a fun and relaxing environment. In fact, I encourage you to inject your personality into the sessions, for you are a *peer* leader, and you can interact with your students in a way that Dr. Daschbach and the other professors cannot.

In terms of the actual session, you should definitely incorporate an icebreaker so that the other students have a chance to get to know one another and to remove any lingering awkwardness that will probably manifest itself in some form during the first few sessions. Stick to the collaborative learning strategies initially, and as you grow comfortable with your group dynamic, you can make adjustments accordingly. As long as you begin the session with an open mind and enthusiasm, your students will be more likely to enjoy their time in their first PLTL session.

“Hold On, Here We Go! Next Stop, Knowledge!”- Mr. Ray**By Sara McCutcheon**

First of all, congrats on being chosen to be a Peer Leader or Mentor! Everyone feels some jitters before their first session, but the most important thing to know is that you were chosen for a reason so walk in with confidence. You obviously have a strong understanding of the material, but you were also chosen because it was thought that you would be a strong leader.

One of the greatest challenges in the first session however, is adjusting to the different style of leadership that is the cornerstone of PLTL. Within the first session you will need to set the expectations for how your PLTL will be run, especially addressing that you are not there to lecture or teach them the material. From your own previous experience I am sure you can recall the moment when one of the group members shares the answer that they got and the entire group just turns their heads and stare at the leader...waiting. Waiting for some validation. Waiting for the correct answer.

There are various approaches to dealing with this awkward moment in which you try your best not to give the answer away with your facial expression. One solution that has worked in the past is simply refusing to make eye contact with the student that is explaining their answer. As they speak, they will start by looking directly at you because they have been conditioned to raise their hand and tell teachers their answers. You are not their teacher and therefore you shouldn't encourage this behavior. Instead as they are explaining the answer, you could look around at the other group members which hints to them that they should also be looking to their group members as they explain their answer. This will help implement the PLTL philosophy of the students explaining concepts to each other and feeling the validation from their strong understanding rather than from getting the correct answer.

Another common way to deal with this problem is by answering their questions with more questions. This solution can both help them think more deeply about the concepts while honestly aggravating your students. They may get annoyed within the first session that you aren't giving them a direct answer like they are accustomed to, but they will be much more likely to start asking these questions to their group members. Don't worry, that frustration doesn't last long and it definitely doesn't mean that they will hate you. After the first few sessions, they will become accustomed to this different style of learning and have a greater understanding of your role as a peer leader rather than a teacher.

It is much better to start out the semester by being strict with the PLTL philosophy because this sets the correct tone for the rest of your sessions. Honestly it will be slightly challenging to not give away any of the answers in the beginning, but you will be grateful when it gets a few more sessions in and the group is already answering all of their own questions.

While enforcing the PLTL philosophy is one of the harder parts of your first session, don't forget to have fun and set a great foundation for your semester!

You Rock, Dude

By Akash Oza

And don't you forget it! In times of high stress, it can be easy to forget the immortal words of Squirt the Sea Turtle, such as when you are preparing to maybe lead a session, in say a class like Gen Chem, in front of some people you don't know, say about six to twelve people. Sound familiar? It should. Because in a couple of days, you are going to be having your first PLTL/Peer Mentoring session! At this point, you are probably a little bit nervous. You have never been the one actually driving this group but rather on the other side of it. You are probably thinking what kind of leader you will be. Will you be like your own Peer Leader or have a different style? Will you bake them food every session or bring them candy? What if you have problems? How are you going to address them in your sessions?

These are all valid questions, and frankly, there are no right answers. Now you may be thinking that is no help at all, but hear me out here. You need to do whatever you are comfortable with and act however you are comfortable. In other words, be yourself. You were chosen because you have this potential and ability to lead, so let that shine. This is especially critical these first few sessions, as first impressions are quite important.

So keeping that in mind, it's important to let your personality shape how you lead. If you try to emulate anyone else, you will come as forced and awkward, and frankly, your students mirror you for the first few sessions. This means that they will be forced and awkward. If you are comfortable, it will automatically make them a little bit more comfortable and make the session pass by more smoothly. So how do you do this?

Well, there are a couple of quick steps that I have found to be helpful in my case. Firstly, pick an icebreaker that you enjoy for that first session. If you seem to be having fun, they will catch on and automatically become a little bit more free. Secondly, small tangents are okay. It's okay to go off topic for a couple minutes and talk about your life or the lives of your students. This will help you become more comfortable and let your personality shape your leadership. Thirdly, feel comfortable labeling your personality upfront in your first session, maybe while going through the ground rules for the session. For example, I have a dry or self-deprecating sense of humor, so labeling that ahead of time, let's my group know that this is something that I will be doing. Fourthly, you are not a professor, you are a PEER leader or mentor, so try to act that way. In my experience, that has been a great way to gain your group's respect, and if you do have to address a problem, this will set it up so that resolving issues will be much less awkward and much more quickly resolved.

In other words, be yourself from the very beginning. Let your own personality influence the way you lead the session, and you are going to CRUSH it (pun intended).

Of Course I Like [Learning with] You

By Harshi Gupta

Now that you have some experience and have gotten to know your students a bit better, you might have noticed that students generally fall somewhere on a scale that goes from quiet to dominant. As a peer mentor/leader, you are responsible for managing these group dynamics so that all students, not just quiet or dominant ones, are benefiting from the collaborative learning environment. While as a student in gen chem, you may not have been as aware of or interested in the purpose of each of the collaborative learning strategies, but as a leader, you are likely starting to learn the advantages and disadvantages each one provides for your group.

One of the most important things to remember is that YOU have the power and flexibility to amalgamate (*chemistry pun*) and evolve the different strategies to cater to each of your mentoring/PLTL sessions. In my opinion, this is one of the most important ways you can add variety and freshness to each of your sessions, and this really encourages you to think about the motivations and usefulness of collaborative learning in general. Having peer leaders/mentors thinking about these ideas more will lead the way into further developing personalized leading.

As a peer mentor, I tried to mix, match, and modify the available strategies each session to cater best to the problem or concept at hand that fit in with the dynamics of my group. For example, before beginning a problem, you could have students work in pairs to start discussing the problem without writing anything down, like how iClicker questions in class work. After students discuss this for a short time, you can have one student come to the board while the students from the adjacent pair explain their rationale for one step in the problem to everyone. The person at the board could disagree with the pair, at which point a different pair would pitch in their input and so on until the group reaches a conclusion about this step in this problem. Students take turns coming to the board, and this process continues until the problem is finished. This method combines and modifies a variety of the collaborative strategies and has the advantage that students had some time to talk about it with their neighbor before starting a Round Robin/Scribe-like method. This specific method would require at least four people to be present, but that's where I encourage you to be creative and modify strategies to handle the situation of even smaller attendance.

I would also recommend ensuring that every student has opportunities for participation by balancing your dominant and quiet students with strategies mentioned in many of the essays here. Strongly encourage students that may be resistant to coming to the board or answering a question to try saying something because even the seemingly smallest contribution to move the problem forward is progress, and it helps to build confidence in students. By using these various strategies effectively, you will show yourself and your students the power of collaborative learning.

In the end, you have the opportunity to experiment with various strategies that work in different situations, and you will discover the ones that work best for your group. As long as you are excited and prepared each week, your enthusiasm will guide you to have fun, productive sessions that your students will truly appreciate.

The Many Types of Fish in the Sea and the Pitfalls of Categorizing Them

By Alex Harris

Throughout PLTL there is much discussion about the role that dominant and quiet students play in the overall dynamic of your group. These general qualities of your students are good to be aware of as they allow you a certain framework around which you can attempt to structure your session (e.g. the classic technique of making the dominant student scribe so that the other students do not get overpowered or reliant). However, thinking solely in terms of dominant and quiet presents the opportunity for complacency of the peer leader, wherein we respond to certain “types” of students the same way instead of tailoring the approach to each individual case.

Alright story time. My PLTL group this past semester did not have any particularly quiet students really, but I did have two dominant students who contributed significantly more than the average PLTL student. Aside from this elevated level of contribution, these students could not be more different in the ways they contributed and the effect they had on the group dynamic. One student, an education major who was taking gen chem solely to learn about how PLTL works, was always very helpful in her contributions. She would offer ways to solve the problems when no one else was volunteering, and she was also very good at explaining concepts to students who were struggling to understand the material. She would even encourage other students to participate and directly ask them what they thought about a particular problem. The other dominant student, by contrast, provided very long winded answers that were rarely understood by the group because he used his fairly advanced physics background to justify his answers, and this knowledge was not common to really anyone else in the group. Thus his contributions often led to stagnation in the problem solving process as people would be more confused than when they started. Thus I had to tailor my approaches to these two students very differently (I would often make the less helpful dominant student scribe but the other one I would be more hesitant to as she generally helped with the group’s understanding of a problem). This also becomes relevant when pairing up students for small group work.

The best thing that a peer leader can do is to stay observant and get to know your students. When they are working in groups, pay close attention to how they are interacting with the other students. One thing I struggled with a little was getting lost in my thoughts and trying to plan one step ahead while they were doing group work, but this often meant that I missed some valuable information about how my students work.

Swimming Through the Silence: Leading a Quiet Group

By Devika Jaishankar

Congrats on completing your first few weeks as a peer leader! Hopefully by now, you are beginning to see some different personalities emerge within your group, and you are ready to tailor the facilitation of your sessions to your group's general vibe and collaborative tendencies. I want to give you some insight on strategies that worked for me when facilitating a quieter or more hesitant group. While new leaders often fear the awkward silences that follow from a quieter group, I thought of it more as a fun challenge to devise new ways to ensure all students in the group were participating. Since even the most vocal groups can go through periods where students are less prepared and more hesitant to speak up, I hope you can take some of these ideas and apply them with any kind of group dynamic.

Even though my group was quieter on the whole, I still had the typical dichotomy between the more outspoken dominant students and the more reserved quiet students. My group worked especially well in pairs or small group settings because it allowed them to work collaboratively without the pressure of making a mistake in front of the entire group. I found it most effective to pair the quiet students with each other and the dominant students together since it forced quiet students to speak up in order to calculate an answer and it allowed dominant students to share amongst themselves without overpowering the opinions of the more hesitant students. This seemed to be a win-win situation and it helped build confidence within the group to share out in larger group settings.

In addition to my dominant and quiet students, I also noticed a division between students who were very confident with the material and students who struggled to grasp the conceptual pieces. This division did not always coincide with the dominant vs. quiet students as often some of my more vocal students were unsure of themselves while quieter students had many of the correct answers. To combat this issue, I relied again on pairing confident students with each other and struggling students with each other so that both groups could work at their own pace to understand the material. In this way, struggling students could take time to visualize and think through the problems while confident students could work ahead and tackle the more difficult probing questions that I threw at them. When working in a larger group setting like on Round Robin or Scribe questions, don't be afraid to call on people directly. Whether it was just asking a quiet student to read the question or summarize an answer, I found this to be a very useful method to keep all of the students on their toes and also spark conversation when students were not willing to voluntarily contribute to the discussion.

Most importantly, the more you open up to your students, the more the group will open up to you! By sharing your own challenges in Gen Chem and empathizing with their struggles, you can develop close bonds with your students that will ease their anxiety about sharing out in the larger group or admitting they are unclear about an answer. I hope you can use some of these tips and tricks as you continue throughout your time as a peer leader! When in doubt, just remember that each week brings with it another opportunity to try something different and constantly build on your group's dynamics. So, keep your head up, and as Dory would say, "just keep swimming!"

Give Me Some Collaborative Learning Strategies, Dude!

By Mehak Kalra

By now, you must be starting to actually feel like a PLTL leader. Things aren't as awkward, you've (hopefully) got everyone's names down, and you're starting to understand your students' personalities and using that to tailor the way you implement the collaborative learning strategies we're all given on Fridays. It's made clear from the beginning of your journey that you are free to play with learning strategies in ways that will make your sessions as helpful as possible. But, it's a little hard to come up with new ideas without a couple examples. And that's what I'm here for – I'm going to lay out some interesting strategies I've used and strategies I've heard from others, and hopefully these will come in handy for you as well.

An integral part of the PLTL philosophy is the emphasis on group work and collaboration. Because of this, I've found it difficult to warm up to the Round Robin learning strategy, both when I was a student in PLTL and as a leader. To me, it can embarrass students and turn them away from the process. One strategy I've put together with some advice from older leaders is to combine pairs with round robin. The way I run this is by first introducing the question to the students, and then giving them about 2 minutes to discuss how to approach the problem with the person sitting next to them. To ensure that this does not simply devolve into a pairs problem, I don't let them write anything down or use their calculators. The purpose of the 2 minute discussion is only to let them mull over how to approach the problem, which I think really helps take away the anxiety that seems to stem from being put on the spot in Round Robin.

Some other problems you may run into may be when students' personalities clash with the learning strategies, and this can be very tricky to solve. In some cases you may have students who work ahead of others, and it can be hard to find a solution without antagonizing that student. One approach is to have all groups, in order to not single out one student in particular, work at the board for a problem, but hand one student a piece of chalk (the slower student) and clearly state that only that student can write. This will force the quicker student to slow their pace for their peers, and will also help them understand the topic more deeply as they encounter questions from the student writing.

Scribe is an interesting learning strategy – in different situations you may choose to either put up a dominant or quiet student. When I felt like one student was dominating the conversations, I would choose them to scribe. Other times I had a student confess to have missed some of the material from the past week, so I would put them up so they would learn by writing out the steps on the board. These situations will vary by week due to various contributing factors, and studying the personalities of each student will help you make those judgment calls. In any case, I would highly recommend having all work written on the board at all times because I have run into situations where groups will think that they did the same thing until they can visually see the opposite in front of them.

At the end of the day, don't forget that the learning strategies were given to help us. Time went into choosing what strategy fit each question best, and although adapting them to specific situations is a good thing, remaining true to what you're given will never lead you wrong.

This is the Ocean, silly. We're not the only two in here.**By Jenny Lin**

All your students are probably a little shy at the beginning of PLTL, but you have probably already noticed some stronger and louder personalities in your group. Almost every PLTL group has what we call a “dominant” student; this is a student who is not afraid to participate and/or talk over other students. A dominant student does not necessarily know all of the answers, but he or she will be more vocal than the other students. For example, in my PLTL I had three dominant students, and they would sometimes take over the discussion without letting other members participate. These dominant students are not trying to thwart the other students’ efforts, but they can accidentally negatively affect the group dynamic by speaking too much. As the semester progresses, the dominant students might get even more dominant, and real issues could arise.

My PLTL group came to the point where I had to stop the dominant students from dominating by directly asking the group if anybody could re-interpret the dominant students’ ideas. If a certain dominant student was lecturing the group, then I would interrupt and ask the group if they understood, and I would force the others to contribute. This way, the dominant student might start the discussion, but ultimately the entire group was participating to move the discussion forward. It can often be hard to stop dominant students if the rest of your group is shy, so you have to place the responsibility onto the more quiet students and urge them to participate more.

Another good way to “quiet down” the dominant student is by starting round robin at the side of the table that is not where the dominant student is. That way, he or she has no opportunity to speak until the end, and hopefully by then the problem will have already been solved. I would often call on the first student in round robin specifically knowing that my dominant student would have to wait and listen to the other students until it was his or her turn. This seemed to work pretty well, and this is also a less obvious way of preventing the dominant student from talking too much. Another way that you can allow the quieter students a chance to talk is to assign scribe to the dominant students; however, make sure you do not make it too obvious, or else the dominant student might feel singled out.

Hopefully, you will be able to navigate this process. Remember, the dominant student should not be contributing more than everyone else, and he or she should not be driving the discussion at all times. The whole PLTL philosophy is based on the fact that a team works together to solve problems; make sure that all your students know that the group requires the participation of all its students, not just a few dominant ones!

Duuuuuuuuuuuude, I want to hear everyone's ideas, not just yours**By Abhishek Sethi**

Congratulations on becoming a PLTL leader! I remember thinking that PLTL would be a piece of cake when I started, but over time, I've learned to appreciate the challenges associated with facilitating a group of students who have a wide variety of personalities, interests, and strengths. It's definitely difficult to create an environment where all students can feel comfortable in being able to ask questions to each other and at the same time adjusting to a role of a facilitator, not a teacher or a tutor. However, as the semester progresses, you will get more and more experience and have wonderful resources in the SAM and PAM classrooms that will only help you get better. This section gives you advice on how to successfully use collaborative learning strategies (CLS) and balance your students' personalities to help make PLTL a beneficial experience for your students. Each peer leader will have different experiences to share, so you will be able to get unique perspectives and lessons from all of our stories.

It's important to use the CLMs to make sure that everyone has an equal voice in your group. In my first semester as a PLTL leader, I facilitated a session where students were on equal footing in terms of work ethic, knowledge of material, and preparation for the session. What differentiated them was their enthusiasm to participate their ideas with the group and their appreciation for the PLTL philosophy of collaborative learning. Often times, I divided the students into pairs or small groups, and the students worked independently to solve the problem. When the students finished the problem, they would check their answers with other members of the group. I found this strategy very problematic, so I paired students who were more enthusiastic about working in teams with reserved, independent students. I found this strategy to work well amongst my group members, and it helped make reserved students different more eager and comfortable to share their ideas with others.

Furthermore, it's up to you as a leader to decide which collaborative learning strategy you can use on each problem. By working on the PLTL packet with your peers in PAM, you can discuss which CLMs are effective and which probing questions can help enhance discussion amongst your group. Because I saw that students were having trouble working together, I made more use of a large group or round robin, and that gave everyone a chance to share their ideas.

As the semester goes on, you might see that students' personalities may fluctuate, compounded by their other classes and extra-curricular activities. This may come as a surprise to you at first, but it's perfectly normal. Take some breaks during the session where you can relax, talk about how other classes are going, and offer advice on just about anything. Having some time off will help students become refreshed and ready to get back to the problem set afterwards.

"Peers are friends, not food" is our way of saying that students will have the most fun and will be excited to come to PLTL every weekend when they learn to appreciate the benefits of working together to solve challenging problems. As a PLTL facilitator, be patient with yourself and your group members; this is the first time for a lot of you. But, reflect every weekend on what went well and what went wrong and seek out guidance from Dr. Daschbach or Dr. Szteinberg as well as your fellow leaders who are always willing to support you.

Gerald, Off Off Off Off**By Rachel Ye**

Hey new leader, congrats on your first semester on the other side of PLTL! Now that you've gotten through a few sessions, you are probably seeing changes in group dynamics, as students become more comfortable. Odds are, you probably already identified the "quiet" students, "dominant" students, and others in between. I'm here to offer some advice on dealing with the "dominant" side of the spectrum.

You'll most definitely meet that one student who thinks they know it all and always volunteers themselves before you even ask. This throws off the group dynamic and impedes the learning of other students who don't get a chance to participate. "Dominant" students are especially difficult to handle because they can sometimes be helpful, driving group discussion forward and participating during sessions where no one seems to have gone to lecture, so if you tell them to stop talking, they may become hesitant to participate in general. And sometimes, you may even have multiple "dominant" students in your group, which is the perfect recipe for arguments and power struggles.

Fortunately, certain collaborative learning strategies work exceptionally well at taming the "dominant" student. Round robin is one of my favorites, because you not only force the "quiet" students to participate, but can reprimand the overly-eager students for trying to highjack the discussion. And if you drill the rules into your group members, other students will start calling out the "dominant" student for speaking out of turn. Another one of my preferred learning strategies is scribe. You can have the dominant student act as scribe, so they are forced to stay silent. However, once the group becomes stuck, you can let the scribe speak, which allows the "dominant" student to participate like they want, and others to benefit without being spoken over.

Sometimes, the learning strategies just don't seem to cut it, and you may need to take a more direct approach. If the "dominant" student constantly speaks over others, you can always call them out and ask them to allow others a chance to participate. Don't be afraid of confrontation; you're the peer leader, and you have a certain amount of power to ensure your session runs smoothly. Another way to deal with this type of student is to start directly calling on other students to speak before your "dominant" student can volunteer themselves. For example, during small group, you can ask a non-dominant member to write their group's solution on the board.

The most important thing is for your group to enjoy PLTL and get the most they can out of the experience. So, I hope you found some of my suggestions helpful, and good luck with your future sessions.

Growing a Growth Mindset

By Jeremy Fisher

Make your students love chemistry as much as you do! If your group is excited about the material, your students will love coming to PLTL every week, and, more importantly, will more effectively and meaningfully learn the material. If everyone feels the material is important and interesting, they will be much more likely to try hard to fully understand everything. And if they have the right mindset, they will be excited as the semester continues to build on fundamental concepts until a relatively comprehensive picture of the electron is created.

So the question is, how can you encourage a growth mindset so the students try to focus on learning material well and on personal growth rather than simply putting in the work in order to receive a good grade? The answer starts with you. Before you could possibly foster an atmosphere of growth mindset for your students, you must truly embrace it yourself. The pressure many Chem 111 students put on themselves to do well can seem overwhelmingly powerful. Reason will never convince them of the importance of trying to maintain a growth mindset. But YOU might be able to convince them.

The best advice I could give is to be careful not to sound preachy, and to let your message come through in your enthusiasm for how cool the chemistry is and for how incredible the process of learning is. If you keep a positive energy throughout each session and emphasize the importance of PROGRESS rather than correctness, the students in your group will have no choice but to feel proud every time they improve or gain understanding. And eventually, that pride will develop into enthusiasm for the learning process and for how cool the material is, and it will distract the students from the stresses of tests and grades.

All that being said, using tests as a tool to incentivize your students to focus and work hard can sometimes be very useful. If your group is having a particularly difficult time staying on topic one week, mentioning that certain topics show up a lot on a test can be a good way to get their attention. But use this carefully and sparingly.

You are all amazing leaders and I'm sure your students love learning with you!

“What do you think?”**By Sam Goetz**

Ten pairs of eyes are staring right at you. Some look anxious, some look confused, and maybe some even seem to be glowering with frustration—a PLTL leader’s worst nightmare. You fill the silence with a timid, “I don’t know, what do you think?” but your students just want to know whether or not they found the correct photon energy. For the sake of fostering a growth mindset, it is imperative to take charge of your group and refrain from giving your students the correct answer.

Although your students will find it frustrating to come out of PLTL not knowing if they have the rights answers, they will begin to subconsciously adopt the growth mindset if you stick to the PLTL philosophy. When you don’t give students an answer, and you instead ask them difficult questions to test their knowledge and force them to connect concepts from different units, you create an environment where students are engaging with the material and learning to make connections. PLTL is a perfect time for your students to practice these skills because they have people with whom to brainstorm ideas and catch mistakes. If you do your job right, PLTL should become a space where students are able to solve problems for the sake of interest and a desire to broaden their understanding in order to succeed in the course. Because of this, students begin to take joy in the process of solving a problem, rather than getting excited when they see that their answer matches the key.

Over time, your students will become less focused on grades and more attuned to which concepts confuse them and what they already understand. When there is no emphasis on right and wrong, students can better explore their understanding of chemistry and focus on improvement, rather than grades and numbers. All that you need to be comfortable saying is “I don’t know, what do you think?”

You so totally rock, Squirt!**By Matthew Howard**

So here you are, it is a few weeks into the year, and your students are probably gearing up for their first GenChem exam of the semester. By now, the excitement of college life is beginning to wear off, as many students realize that there is a constant influx of assignments, tests, and social engagements that require their time and attention. You may hear about this in your session. Students might say they do not know how to best budget their time, or that they are nervous about the first exam because somebody said the practice test was *super* hard, or that since they did poorly on the quizzes that they cannot do well on the test. This is where you step in. You have been through the class, and you know better than most that there is always room to excel with the material, and there is always room to improve your personal strategies and mindset.

When we discuss mindset, there are two general categories: fixed mindset, and growth mindset. Fixed mindset is when a person believes that traits like intelligence or talent (read: ability to do well in GenChem) are “fixed,” and that they have no ability to change them. On the other hand, growth mindset is when a person believes that through practice, hard work, and dedication that they can improve their abilities. Personally, I think you would be hard pressed to find a student that truly has a fixed mindset, but, rather, students fall on some sort of spectrum between the two. So how do you, as a peer leader, foster a growth mindset in your students?

The first step is to begin identifying where your students stand on this spectrum. This might not be easy until after they get into the course a little bit and have had a quiz or two. At this point they have had some time to adjust to college, and they are figuring out their study strategies. Pay attention to what they are saying; are their comments focused on their perceived lack of ability, are they centered around the idea that Chem 111 is just impossible? Keep some mental notes on which students seem particularly “fixed.”

The second step is where you, appealing to the “peer” half of your title, begin to start conversations with your group about the growth mindset. The first priority is to dispel the fixed mindset by encouraging students to believe that they can improve both their study habits and understanding, which will likely lead to better marks. This can be done by personal anecdotes, stories that you hear from other leaders, or even showing a video—YouTube is loaded with stuff about fixed vs growth mindset. You have to prove to them that they really can improve. Sometimes they just need to hear that it is possible.

The third step is where you begin to suggest and recommend ways to improve. There are literally so many things you can talk about here. For your students that seem to think that they are unable to improve, refer them to Dr. Daschbach or Cornerstone. Dr. Daschbach is available to talk to students who are wondering how they could improve their study habits for Chem 111. Cornerstone does it all, they have resources available for better notetaking, time management, study skills, and much more. When I took the class, I did not know these were available, so tell your students that they only have to take the initiative to find help, and help will abound. For your students that believe that they cannot improve because GenChem is just a hard class, recommend that they take some time to seriously review their notes to see what is troubling them. From there, recommend that they go to RPM hours, recitation, or help session with specific questions that will help them understand what they do not know. The key here is to give them the tools to improve, and to point them in the right direction.

When fostering the growth mindset, the unique position you are in as a peer and a leader affords you a lot of respect from your students. They will listen to you, and you have to show them that growth is possible—even if it is slow—and that they can all improve no matter where they start. Sometimes they might just need somebody to push them towards the right places.

Finding Confidence: We've All Been There

By Katherine Nico

In PLTL and Peer Mentoring, we talk a lot about the growth mindset and how important it can be for the students in General Chemistry. It's 100% true: if a student thinks that their chemistry knowledge is fixed, they won't achieve their full potential in the course. However, if they believe us when we tell them that all of their hard work and effort will pay off, they will see results. As a Peer Leader or Mentor, watching your students succeed and improve throughout the course is one of the most satisfying aspects of the job! As you go through the semester, you'll watch your students go through ups and downs, but in the end they'll come out smarter and more prepared because of it. However, sometimes you have a student for whom the Growth Mindset philosophy just won't sink in, or just doesn't seem to work.

Sometimes, this student is studying hard, but they aren't studying smart. This can be really disappointing, as a student feels that they are trying their hardest and not seeing the returns that their work seems to merit. Maybe their study habits from high school aren't as effective anymore, or maybe they're overwhelmed with Gen Chem's reputation and are wearing themselves out. In that case, a meeting with Dr. Luo or Dr. Daschbach can definitely help your student hone their study skills and spend their time more effectively. In addition, Peer Leaders can encourage students to review their class notes and POGIL packets before a session, and Peer Leaders can ask for that as well as some effort put into the week's problem set. By promoting this sort of advance preparation and continuous review, you'll also be contributing positively to your students' studying routine.

Despite academic assistance, some students are incredibly discouraged in this course. Many people, when faced with a task that seems insurmountable, are afraid to begin. Additionally, there are some students who feel as though they aren't "smart enough" to be in Gen Chem or they aren't cut out for success in this course. In those cases, the Growth Mindset doesn't always sink in. A student can have trouble with confidence and self-esteem that goes beyond studying for Chem 111. In that case, a student is often struggling in other classes as well. When it seems that work is impossible, they would rather not attempt it than find that their attempts lead to failure. Sometimes these students will talk to you after a session for help, but sometimes they won't. If you see a student that gives up easily, doesn't engage in the work, or seems to disengage from hard problems, check in with your student. In those cases, some students need an extra push that's more mental than academic. For other issues that a student might be facing that are interfering with their academic performance, talking to an RA or to someone from Uncle Joe's might be a great step. In case of a more serious problem, there are also mental health professionals at SHS or the Let's Talk open hours. If you're not comfortable talking about any of this with a student, that's totally fine—you're an academic resource first! Dr. Daschbach and Dr. Luo can also have that conversation with your student if you think your student may need that sort of outside help.

The transition to college can be difficult both academically and personally. Be positive with your students about the General Chemistry experience, and reinforce the idea that the entire Gen Chem family wants every student to succeed in the course. No matter how hard a student studies, sometimes confidence can be the hardest skill to learn. Feel free to share your experiences and stress the Growth Mindset—it will sink in eventually, and your students will thank you for it. With your expertise and encouragement, your students will go so far this semester and beyond!

“I can remember some things because I have a family because everyone has a family”—Dory**By Lanee Simmons**

By now you have probably heard all about how important the growth mindset is and how, as Peer Leaders/Mentors, you are in the perfect position to help reinforce this in the new cohort of Chem 111 students. This week, you are probably learning tons of different tips and tricks to slyly enforce a growth mindset during your sessions while also juggling the millions of other things you have to be secretly planning in your mind to insure smooth sailing among your students. I don't know about you but, for me, this all got a little overwhelming at times and I didn't always remember to say exactly what I wanted to or maybe should have in all the exact right moments—IT'S OKAY! Emailing my group at least once a week (sometimes more, for example on the days of their first and last quizzes and exams to wish them luck) is how I made sure that really important things such as growth mindset were reinforced in my students when I didn't have time to directly address it during our sessions like I had planned to. I highly suggest all leaders do this! I also believe this contributed to them viewing me as a friend rather than some random upperclassman who leads their PLTL sessions (even though they never responded to my emails).

The other really important thing I want to emphasize, which I also incorporated in my group mainly via emails, is that even though we are very important members of the Gen Chem family, it is important to remember that, with only two hours to accomplish everything each week, it's okay if we can't be the ones to help them with every little thing. This is where I referred my students to other members of the Gen Chem family, as well as to the general WashU family, for further help. For example, I would often email my students to say something along the line of “I hope your first exam went well, but even if it didn't, that's okay too! You are most definitely not doomed in Gen Chem, as there is still plenty of time to recover and even drop this exam. The important thing is that you really spend the time to reflect on your study skills and evaluate how you can update your approach to better learn the course material for future quizzes/exams.” As Peer Leaders/Mentors, I think it is good to offer our own Gen Chem stories and study strategies to our students, but it is likely that many people in your group won't learn effectively the same way that you do so I believe it is essential that we remind students of other resources on campus to help them better direct their efforts. Within our Gen Chem family, Dr. Daschbach is an amazing resource and she is always willing to set up a meeting with students to discuss effective ways to approach the course. However, many students will find this to be too intimidating or may need more general help with developing proper study skills to thrive in college, so I also pointed my students in Cornerstone's direction. Cornerstone offers various resources on their website, and they regularly hold a variety of study skills workshops which include Time Management and Productivity, Note-taking, Avoid Procrastination and Increase Persistence, Collaboration, and Study Skills. They also offer a College Academic Success Skills Self-Assessment that identifies areas of strengths and weaknesses based on the individual's reported habits. I have personally found these resources to be very helpful and the best part about it is that you can get these personalized results online without having to go to someone who may be seen as more of an intimidating authority figure. In my opinion, most Gen Chem students are more likely to take advantage of this type of resource. So, the moral of the story here is to connect with your students often via email, as it is a valuable platform on which you can accomplish many of your goals: fostering your relationship with your group by showing them that you care, reinforcing growth mindset, promoting useful student resources, and working to maintain an encouraging and motivated attitude among your group. Good luck, and remember you're awesome!!

Yes, I'm a Natural Blue

Dustin Tillman

By this point in the semester, you've survived the first day and learned some simple strategies for facilitating learning. While it may be tempting to switch on cruise control over the next few meetings, the transition from ice-breaker master to successful peer leader is far from over. Now that the basics are out of the way, it's time to move on to one of your most important duties as a mentor: establishing a growth mindset in your students.

At its most basic, a growth mindset, first described by psychologist Carol Dweck over thirty years ago, is the belief that anyone can improve their skills through dedication and hard work. Although individuals may have wildly different chemistry backgrounds, every student has the potential for substantial and sustained advancement if they put in the proper time and work. In order to amplify this improvement, personal progression should be highlighted instead of the success and failures of others. By turning their attention inwards, students can fight off feelings of inadequacy or arrogance that would otherwise obstruct their journey to chemistry nirvana. These twin components of a growth mindset have been proven to increase learning and lower stress, fitting in perfectly with the goals of peer leading and establishing its importance as a tool in any leader's arsenal.

While basic definitions may be an adequate method of explanation in some situations, few students will welcome a lecture on growth mindsets that prevents them from getting started on the packet. With that in mind, I usually tell students a personal story around the time of the first exam in order to subtly impart the importance of a growth mindset. Since the setting of my narrative is likely approaching during this section of SAM, it seems appropriate to also relay my story, briefly, here.

Like general chemistry, No Shave November is an anxiety-inducing phenomenon that can lead to feelings of inferiority. Originally brought into this ordeal by a substantial amount of peer pressure, I first participated in No Shave November during my freshman year of high school. Unfortunately for me, a month of careful cultivation only produced some paltry peach fuzz that paled in comparison to the beards and mustaches that took up residence on the faces of my friends. With so many visible signs of success around me, I became discouraged and lost hope of competing with my hairy superiors. My lack of enthusiasm persisted throughout most of high school as I continued to focus on comparing myself with my peers.

However, my senior year of high school provided a spark that has allowed me to enjoy No Shave November ever since. While I might have preferred a genie or a magic hair-growing spell, the event that ultimately led to my new outlook on the month of November was a change in mindset. Like most seniors, I began to lose interest in how my peers perceived me and instead prided myself on any personal progress I made. While my facial hair was still nothing to boast about, I noted my steady improvement throughout the years and realized just how far I had come. From that point forward, I spent the month of November focused on the gains I made as an individual instead of comparing myself to every person I saw. As a result, I now enjoy the bizarre process of letting my face be consumed by hair each year and don't plan on stopping anytime soon, even though I may never attain true werewolf status.

With luck, my rambling story has helped deepen your understanding of growth mindsets at least a little bit. My students certainly love to hear that even someone as infallible as a sophomore PLTL leader still has areas to improve upon and I truly believe they put just a little less pressure on themselves as a result. Definitely don't be afraid to share some of your own struggles with the group: it humanizes yourself and lets students realize that personal progress should take priority, helping establish a growth mindset. Do be afraid to share some of your old No Shave November pictures with the group. That is a mistake that I, at least, will not be making again.

Swimming in the Drop Off

By Jeremy Fine

The year is in full swing. Midterm season has started. Student productivity levels are as high as they will be until finals. You feel like you're moving a million miles a minute. Then all of a sudden, you hit the drop off: the mid-semester slump. The stagnation is palpable. Motivation drops to an all-time low. Thanksgiving feels like it is years away. And you are supposed to lead a group of students who feel the exact same way you do. This task may seem impossible, but there are a number of things you can do to make your mid-semester sessions the best ones you have all year.

There are a number of things you can do for you students in order to keep them motivated in PLTL. One thing you may want to do is leave some time at the beginning of the sessions to catch up and talk about what else is going on around campus. This allows the students to relax and reset their minds before the session. I always played music as my students were arriving in order to create that calming productive environment that I knew my students worked well in. The minutes before you begin Question 1 are what set the tone for the rest of the session. After you begin the packet, you have to make sure to maintain an environment in which the students have a desire to remain focused. This can be very difficult, as they likely have a lot of other work to do, or are very tired and unmotivated. One trick is to say to students that the concept you are currently discussing is likely to be on the exam. It always amazes me how quickly students perk up upon hearing this!

You also need to ensure that you can still be an awesome PLTL leader through the mid-semester slump. As such, you may want to do a little bit more preparation before your sessions than you were doing at the beginning of the year. Furthermore, at this point in the year, you need to make sure that you are no longer putting groups/pairs together at random. It will be helpful to your group dynamics if you think of good groups/pairs before the session so that there is no dead time in the session, and so that your group is functioning at as high a level as possible. Furthermore, you should plan ahead how to navigate the packet if you are running low on time. At this point in the year, you know how quickly your students tend to work. As such, if you have a group that does not tend to get through the packets, you have the power to skip certain questions. If you plan ahead which question or questions you would like to skip, based on if concepts are repeated in the packet, then you can have a more efficient environment even on limited time.

The mid-semester slump may feel never ending, but at those times when you and your students feel like you will never make it to winter break, there are plenty of resources you can go to. Your RAs, SHS counselors, Uncle Joe's, friends, family, and WUSAs (for your students) are all there to help when times get tough. The end of the year is in sight! You have this!

“When life gets you down do you wanna know what you've gotta do? Just keep swimming. Just keep swimming. Just keep swimming, swimming.”

By Victoria Grabinski

First, I'd like to congratulate you on becoming a PLTL leader! To fill this role is a huge honor; but with this leadership position comes responsibility, and this is why we as leaders must keep swimming. School can be quite a challenge. We have all been through this; we know the feeling of being behind, of stressing over our millions of imminent exams and papers and projects and problem sets. However, it is how we choose to handle ourselves in the midst of all this chaos that will define our legacies as PLTL leaders. If you are in this position, it is clear that you care a lot about helping others succeed. This is not possible when leaders come unprepared, unenthusiastic, drained, or otherwise apathetic. Don't let your group remember you as someone who was always stressing about the next Orgo test; let them remember you as a leader who mastered balance. When school, extracurricular activities, and other duties come rushing at us all at once, it is essential to not let our performance as PLTL leaders slide.

For this reason, I would like to offer a few suggestions on how to stay prepared, energized, and on top of your game as a PLTL leader. First, regarding content, it is essential to pour over your notes (and any other relevant materials like course content videos) before coming to PAM on Fridays. This will allow you to identify and clarify your own confusion with other leaders so that you can best facilitate your session. Further, the interrogative assignments, although long, are a great source of clarification and probing questions. When a leader comes prepared, knowledgeable, and excited about the material, the entire dynamic changes; your group will notice and appreciate your efforts, so being prepared will be rewarding in the long run. On the other hand, a session in which the leader is not totally invested has just the opposite effect. Worrying about your own academic challenges will taint your PLTL session, so as leaders we must practice the essential skill of compartmentalizing. Worry about your upcoming exam after the session, not during. The only topic that should be on your mind during your session is chemistry, your students, and of course how to best facilitate their group-dynamics and learning. Be fully *present* at your session. Further, if you feel yourself or your students slipping in energy or enthusiasm because the mid-semester slump is so rough, feel free to spice things up at the beginning of your session! Playing a short game, motivational video, or bringing in a fun snack can go a long way. Good luck in your future sessions and remember to just keep swimming!

Keeping It All Together

By Emma Huff

So you've reached that point in the semester. Yes, you know the point I'm talking about – it feels like you exist for the next midterm, there are probably three papers due tomorrow, and you might be crying. The infamous mid-semester slump has hit, and it has hit hard. This is when it's good to transport yourself back to when you were a first-semester GenChem student and remember what that felt like. For many students, this is a brand-new experience in a semester filled with new. They might not have a support system yet, and they've probably never experienced this type of course load before. Things are the hardest they've ever been, and they might be struggling in a number of ways. This is where you come in.

First thing comes first: take care of yourself. You know how in airplanes, if the oxygen masks drop down, parents are supposed to put on their own mask before helping their child? In this case, you are the parent. You can't be a mentor to your group if you're running out of oxygen, whatever that means for you. So take some time: sleep, de-stress in any way you know how, even seek help if you think it's necessary. It's hard to do sometimes, and if you're anything like me, you might be thinking, "I don't have time to take time!". Sometimes, though, taking even just a half-hour for yourself, or getting a good-night's sleep one night a week, or something small like that, can change your world. Be there for yourself, and then you can be there for your students.

Now comes time to take care of your students. One of your jobs is to help them learn chemistry. They might feel like there are 3000 things to do and no time to do them, and GenChem might not be at the top of their list of priorities, especially if they feel like there's nothing they can do about their grade. This is the time to emphasize the growth mindset, in both class and in life. They probably aren't going to be perfect the first time around, and that's ok. Encourage them to keep improving, even if they think it isn't possible. This brings us to the second part of your job: to be a mentor. Be an example for them, a person who has gotten an A in GenChem and has made it through freshman year at WashU. Constantly remind them that even if it seems hard, they will get through it and the world will not end. Remain enthusiastic, and make your session a sanctuary that they can look forward to. Maybe even bring a treat, especially at this time in the semester. Food might be just what they need. Take care of them, watch out for them, be there for them during a stressful time: help them put on their oxygen masks. Together, you can all survive the mid-semester slump.

Just Keep Watching, Just Keep Watching...**By Emily Manin**

As you progress further into the semester, it will become very apparent who is keeping up with the lectures and who is being overcome by the mid-semester slump. If you thought it was difficult to have dominant and quiet students in your group in the beginning, it is probably getting more difficult now because the dynamic is probably changing. Maybe your dominant student hasn't been to lecture in two weeks and has nothing to contribute or maybe only one of your students has been to lecture and is the only one contributing. Do you accept the reality that people start getting behind and that is just the way it should be? Do you say something to the students who are starting to come in consistently unprepared? Do you let your unprepared students struggle more than usual so that they learn a lesson? Or do you start to "lecture" so that everyone is on the same page?

This is a tricky question and it is dependent on your students and group dynamics. But this is what I did: when I started noticing that some of my students were slipping, towards the end of lecture I discussed the importance of keeping up with the material and my personal experience with getting behind and how stressful it was to catch up. For the first session that students are unprepared, I chose to do a longer-than-usual review of the material so that all the students were on the same level. If your students start to consistently come in unprepared for PLTL, I would again remind them of how difficult it can be to catch up right before the test, but skip the review so that the unprepared students know that if they come unprepared, they will not get nearly as much out of the session.

Overall, it is ultimately up to your students to decide how they want their sessions to go; remember that your job is just to facilitate the sessions. If they choose to come unprepared or not to come, it is on them not you. So don't sweat it if your students come unprepared to a few sessions, but stress the importance of keeping up with lecture and don't forget to add in your personal experience.

I Shall Call Him Slumpy, He Shall Be Mine and He Shall Be My Slumpy

By Kathy Recto

Do you find your kids to be overly stressed out? Are they super frustrated that you cannot tell them the answers or that they are getting different answers from other PLTL groups? Alas, you've made it to the mid-semester slump, and you feel like poop. However, do not fret! Many generations of WashU students—and PLTL leaders especially— have felt the exact same way you do. Here are my top tips on how to best deal with their frustrations (as well as yours) in order to survive the mid-semester slump and, more importantly, to give your students the best PLTL experience.

At this point of the semester, I think we can all acknowledge that time is precious. With exams and assignments due almost every week, time-management is crucial to success. As a result of not having as much time as they would like, many students start doubting the effectiveness of PLTL and the two hours it takes up when they could be studying by themselves. As a leader, you will start getting bombarded by questions such as “why won't you just tell us the answer?” My tip for dealing with this frustration is to re-iterate the PLTL philosophy as well as supplement it with personal anecdotes from your own experience as a PLTLer.

I recommend mentioning that group learning is an extremely effective way to study because it lets you honestly gauge how much you know or don't know. By seeing different perspectives on how to approach a problem, students gain a repertoire of skills and strategies that allow them to better tackle new problems. Even more, you may have that one student who is always itching to get out of PLTL early. Although it may sound contrived, my tip for this problem is to emphasize to your students that the brain is like a muscle: it must be exercised in order to grow. By coming to PLTL and rushing through problems and not taking the time to fully understand a concept, students are wasting their time. Active participation, throughout the entire semester and not just the two days before the exam, can be a key determinant of success in Gen Chem.

Just like Dory, many students during the mid-semester slump joke that they “suffer from short term memory loss.” Even as a leader, you probably recognize the feeling of not knowing something even though you literally just studied it. This hallmark feeling is something your students acutely sense during this time of the year, and it stems largely from their reliance on memorization. Gen Chem is one of those classes where it is useless to memorize everything. Rather, the skills of working through many problems and recognizing where a problem is headed are what become essential for performing well on exams. During your sessions, you need to highlight that studying perhaps a week in advance for the exam will help them improve their scores. With this extra time, students should work through previous PLTL packets, work every ungraded homework set, and do all the recitation quizzes. Amidst the flurry of cramming for exams, students rely on reading their notes as the primary source of studying and often forgo working through different types of problems.

What your students need to realize is that no one is naturally good at chemistry or is inherently “smarter” than others. As with many things in life, practice, practice, practice is what separates some students from others in Gen Chem. Although many students realize that, the burden of other commitments can sometimes take priority over chemistry. I strongly suggest sending weekly emails to your students to remind them to keep up with their schedules as well as to send them positive vibes. Lastly, if you do ever finish PLTL early, ask your students if they want to work extra problems (from homework sets, quizzes, etc.). Hopefully by doing so, your students will make it through their mid-semester slumps and just keep swimming!

The Swirling Vortex of Terror: Riding the East Australian Current

By Kim Rota

Students stroll into PLTL or peer mentoring exactly ten minutes after the hour. A week without an exam is nearly unheard of. The work in other classes begins to pile, students don't always go to lecture, and your group's attendance dwindles. The ocean seems too vast to find Nemo and the East Australian Current is simply a "swirling vortex of terror."

Don't be discouraged if your students drop out. Chances are they didn't drop because of you. Some students are not interested in group learning, while others may just be too busy with extracurricular activities. As your group becomes smaller, take advantage of it and take the time to get to know your students even more. Ask your stronger students more probing questions and ensure that your weaker students are not falling behind.

At this point in the semester, students may not be as prepared as they used to be in the beginning of the semester. As the material becomes more challenging, this can present problems for your group. Spend more time on the review of concepts and make sure that your students ask each other any questions to clear up any confusions. When my students spent more time solidifying their understanding, they were able to go through the packet more quickly. If someone hasn't attended lecture or watched the lecture videos all week, have him or her scribe. This ensures that he or she doesn't hold the group behind by not being able to contribute when his or her turn comes around. Yet, he or she can learn from the other students in the group as they write down the solution to the problem. If this is an ongoing issue, remind your students that by staying on top of the material, they're more likely to retain the information for the exam. Additionally, part of the PLTL philosophy is to come prepared to each session so don't be afraid to talk to a specific student if he or she seems to be struggling with the pace of the class.

If your students become very frustrated, encourage them to look back at their notes. Ask probing questions about the fundamental concepts so that they can apply their knowledge to more complicated problems. Remind them of how far they've come and how much they have learned in Gen Chem. By putting this into perspective, your students will have some more hope that eventually they will be able to find that electron in that one-dimensional box.

In the words of Dory, "the best things happen by chance." By chance, Marlin met Dory and together they were able to find Nemo. Likewise, by going with the flow of the East Australian Current, it will no longer seem like a "swirling vortex of terror," but instead a path to help you and your students reach the final destination.

Finding the Group Dynamic

By Ani Gururaj

Congratulations on becoming a PLTL Leader or Peer Mentor! You have such a great opportunity at your disposal to work with other students. You hopefully have become comfortable with your group dynamic and are aware about how to pair students into groups. However, even if you are cognizant of how your group members collaborate, you still might have a few peculiar situations with your students like I did with mine.

While PLTL is dependent on how willing your group members are to collaborate, issues can form when several group members become too close and make it awkward for others. I faced this problem towards the second half of the semester. As a result, I had to quickly think of some strategies to make my PLTL effective for everyone without altering the group dynamic. I found that splitting these individuals into different small groups was the first step in this process. When this wasn't always an option because of limitations of group sizes, I picked one of them to be scribe to prevent any type of distractions to taking place. When this finally was not an option, and I had to force my individuals to work in the same group, I made them perform additional practice using a separate list of chemistry questions I wrote before the session.

I hope some of these tips help if you ever experience a similar situation. Always feel free to talk to students individually if certain strategies don't work. PLTL is always about discovering the balance within the group dynamic, and while this can take time and work, leading becomes much easier once you find it. Good luck with the rest of the semester!

“There’s Over 400 [Students], Odds are One of them is Bound to Like You” (-Coral)**By Ryan Hoopes**

“**RIGHTEOUS! RIGHTEOUS!**” (-Crush) You’re three-quarters through the semester; Halloween is around the corner, and you’re excited about your Drake costume (to impress Dr. Szteinberg and her love for Drizzy); you’ll be home soon for Thanksgiving, laying on your couch and spending time with your dogs. Time to coast, right? Wrong. You still have at least four more sessions to lead, and that means four more opportunities to impress your students with your passion for chemistry. Finish up on a strong note, and motivate your students going into their last midterm and their final!

One way to peak the interests of your group is to integrate a new problem-solving strategy. As suggested by one of my fellow leaders, you could combine the round robin method with pairs. After reading the question, give your students two to three minutes to discuss the problem with their neighbor in order to understand what the question is asking and to formulate a few ideas as to how to solve it. This allows the round robin strategy to go a little more smoothly and to switch things up from your sessions the first half of the semester. Students who may not be as quick on their feet will now have more time to think and can be more engaged in the question. Introducing even a small change like this can change the dynamic in your group for the better.

If you haven’t had the chance by this point in the semester, I highly encourage you to take up one of your fellow leaders on their desperate pleas to find a sub. for their group (even if you have to do so an hour before their session). Ideally, though, you’ll plan things through with the other leader before going into a new session: asking the other leader about dominant/quiet students and sending an email to the new group about your replacement. That way, they’ll know to expect a new face, and will (hopefully) be on their best behavior to impress. If you’re anything like me, you may be a little apprehensive to take over for someone else. Your group has finally clicked, and you feel open with your students, and they with you – why start anew? Well, it helps to build your confidence of the material, as you may have to explain a concept in a different way than you may explain it to your group of kids. Additionally, it could be a good dry run of that week’s packet before you lead your session later that day, or the next day. Ultimately, if you continue your successes as a PLTL leader, it is inevitable that you’ll have new groups to lead in the future. Best to feel comfortable with all new faces now. At the end of the day though, relax! You’re here for a reason and the students, whether yours or not, will love you.

The H₂O Intolerant: How to Handle Challenging Students

By Lauren Johnson

At this point in the semester, you have probably become very familiar with all your group members and how they interact with each other. With most of your students, you are probably having a comfortable time leading them every session. Unfortunately for most PLTL leaders, there will always be one student in the group that continually brings challenges to the session and creates a negative group dynamic. These students, whom I call challenging students, are almost 100% of the time dominant which means that they are very active and vocal each PLTL session, but not in the best way. Sometimes you may not even realize who that student is, but I recommend that every time you lead a session and notice certain people absent from your group, observe if the group dynamic changes positively which may have occurred due to the absence of that one student.

Challenging students come in many different forms, so I will now go over a few and suggest different ways to manage them. One type of challenging student is extremely dominant, even if they are not certain about the material, and are unwavering in their answers even if told not correct by other group members. Since they are so vocal, they tend to silence the opinions and diminish participation of other group members during discussion since they are usually the first to answer a question. The problem with this type of student is that they inhibit productive discussion amongst all group members because they are (H₂O) intolerant to hearing other people's suggestions. One method to help this type of situation is to make this challenging student the scribe when it is listed as a problem-solving strategy, or strictly stick with the round robin strategy, so that everyone has a chance to speak after each other. Often times, round robin tends to collapse into a large group discussion, so always be strict with it when you have a challenging student. If they continue to talk over other students when it is their turn, you can implement an object like a ruler or stuffed animal as a talking stick, and only allow students with that object to speak.

Another type of challenging student is the one who always gets the group off track. This includes bringing up topics unrelated to chemistry during your session which can cause the entire group to become distracted, or even discussing their personal lives which should not occur during PLTL. Whenever this happens and you see the group has been off track for a while, quickly redirect the students back to the PLTL packet and do not be afraid to cut this student off mid-sentence.

Another type of challenging student is one who directly asks not to do the learning strategies and instead always promotes large group discussions. This will probably occur more often when your group shrinks as the semester progresses, and people will more likely decide not to only interact with their assigned group members. Always try to keep up with the learning strategies no matter how many students present. Even if the learning strategies are not maintained throughout a question, always begin with them because they determine how well the student initially learns the material for themselves, rather than receiving answers or directly being validated by other student's answers. So, whenever this happens remember to clarify the importance of learning strategies and implore that you will always use them even if your group members do not want to do them.

Challenging students often cause difficulties in your PLTL environment, but if you handle each situation well then your group dynamic will improve which benefits all your students. No matter how hard these situations get, always remember to just keep swimming!

Fish Out of Water... Subbing for Other PLTL Sessions**Dominique Meyer**

By this point in the year, I hope you now feel comfortable and connected with your group. You might be getting the frequent emails from other leaders asking if you are available to sub for their group, and you may also be a little intimidated (like me) to test the waters of a new group. I was just starting to understand how to best work with my group dynamics, so wouldn't throwing a whole new group into the mix be scary and stressful? How would you know which students to put together? How do you know which students tend to get ahead of the group?

These are all normal thoughts, however there is no way you're expected to know the answer. Lucky for you, there is another PLTL leader that does have all the answers: the leader you're subbing for. Before you go into this new group, send the other PLTL leader an email and ask them about anything you think is important to prepare for the session. Some things I found very valuable to know included information about which students were stronger in the group, which students work best together and possible struggles their students regularly have, but feel free to ask them anything. Remember, you're doing them a favor, and they are most likely eager to offer any advice to make the session go smoothly.

If you are still feeling a little hesitant about working with another group, it also might help to put in a little more time reviewing the course material and interrogative assignment. If you go into the session feeling more confident about the material and prepared with probing questions, it will be easier to feel confident about leading the session.

Lastly, don't get caught up in the rules from the past leader. This is your group for the week, and the students should be prepared to follow your rules. Take a short period of time at the beginning of the session to debrief your students on how you like to operate. I know it can be scary to lay down the law, but this will make sure that your students don't try to test your boundaries just because you're a new leader. You're still a group facilitator, and you have the power the control the rules of the group, so take advantage of this power.

Subbing may be uncomfortable, but I learned so much more about my abilities as a PLTL leader through subbing for another group. It is much easier to see what strategies work well, where your weaker spots are and gives you room to try fresh ideas with a new group. Like Dr. Szteinberg says, "it is so good for you!", and it will help you become a better leader overall. All in all, I definitely recommend taking up this learning opportunity at least once throughout the semester.

First you were like WOAH! Then we were like WOAH! And then you were like...woah...

By Anurima Sharma

When people think about who takes General Chemistry, the automatic response is freshman, but that is not always the case. More students that expected to take Gen Chem as sophomores, and now that advisors are encouraging first year students to take physics, and then chemistry, the number of sophomores is on the rise. As a first year PLTL leader, you may have people your age, even your friends, be your PLTL students. While at first it sounds fun to have your floor mate, or biology lab partner, or someone else you know outside of PLTL as your student, it can be difficult to balance being a friend and being a leader during your sessions.

Last semester, I had three sophomores in my group, and one of those students lived on my floor. I had to be very cognizant of making sure that when I was in the role of a PLTL Leader, I gave every student equal attention and held everyone to the same standard. One reoccurring topic that came up between my sophomores was Biology 2970. They would complain about it, talk about upcoming assignments, and make comments about biology directed at me. While it would have been very easy to join their conversation, I would be isolating all my other students by doing so. Whenever a situation like this one occurred, I tried to generalize the discussion and open it up to the entire group.

Your sophomore students may also not see you as an authority figure to the extent the freshman do, which can be difficult for you as well as the rest of your students. For example, they may miss more, think you will excuse their absences as a friend, or they may be on their phone more because they feel as if they do not connect with the freshman. While these behaviors hurt the student, they also hurt your group dynamic. My advice would be to enforce the rules equally from the very first session. As a leader, while it may be awkward to tell your friend to put their phone away, you have to treat them as you would a student you did not know. As a leader, you may need to go out of your comfort zone to effectively lead your sophomore students, but they will benefit from it too.

Finally, it is more likely your sophomore students will run in similar circles to you. You may see them in other classes, parties, events, or a variety of other things, so make sure that when you are around your students, you are more aware of what you say. Your student should not overhear you saying something like, "Ugh I don't want to lead my PLTL tomorrow. I am too tired." If the students do not think the leader is eager and excited to be leading, then they will not be engaged in doing the packet either. Even when you are not leading your session, you represent the General Chemistry program. With my sophomore students, I even went a little bit out of my way to remind them about PLTL on weeks we all had big exams in other, sophomore specific classes.

Having sophomores in your group can be exciting, but remember that you are there to lead, not socialize. At first you may be like "WOAH!" and they'll be like "WOAH!", but then you'll be like "...woah..." (sorry for the terrible joke). In any case, just make sure to hold your sophomores to the same standard as your freshman, encourage them to make friends in your group, despite the age difference, and you'll be just fine. 😊

“I have one... two... three? That's all I have?”**By Anne Wampler**

You've probably already seen the effects of the mid-semester slump. You've done everything: encouraging them with Growth Mindset, bribing them with food, reminding them of their duty to the group, even threatening them with an upcoming exam. So far, you've managed to keep a constant attendance of seven or eight students. Then one weekend all of your group's extracurricular commitments coincide and only two kids show up to PLTL. This happened in my group last semester. Having group so small was daunting. How do you facilitate a group when the only collaborative learning strategy you can use is pairs? What do you do when they get stuck and don't have the benefit of added input from their peers? Despite these difficulties, with some quick thinking and flexibility, this kind of mini PLTL can be a great opportunity to tailor your session to your two students.

How you approach this session will vary a lot depending on what kind of students show up. By this point in the semester, you know your students pretty well. You know which students always come prepared, which ones have never been to lecture, which ones love to participate and which ones have to be coaxed to speak. In a normal PLTL session, you have to make compromises so that all of these different kinds of students get the most out of the session. Sometimes, some of your students will finish faster and have to wait while you work with the rest of the group. Sometimes, weaker students will try not to ask questions to keep the session moving or will try to hide behind their more dominant peers to avoid having to participate. In a much smaller group, you can give every student your undivided attention.

For stronger students, a small group may seem to them like an opportunity to rush through the packet without having to slow down to go over concepts or to explain their thoughts to the rest of the group. While this faster pace may make them less likely to become frustrated with the session, it's also important that you make sure that they still flesh out their ideas. If the session is running fast, have them each practice writing out their explanations in 2-4 sentences as they might on an exam. This is also a good time to use all of your probing questions to really test their understanding.

Small groups are also a very helpful opportunity to encourage your quieter students to participate and to make focus in on topics to make sure they have a complete understanding of the material. In my two person session last semester, one of my quietest students admitted that she was still nervous about giving answers for fear of being wrong. The smaller, more personal feel of a small session helped her address that fear because, when she was forced to speak, she discovered that she understood more than she thought. This was one of my most rewarding moments as a PLTL leader.

Having a small group can be jarring at first, but don't let the change freak you out. Go with the flow and you might even gain a better understanding of a couple of students and how to help them when the rest of your group returns!