This lesson plan requires 50 minutes to complete.

1 Introduction to PL Sessions and PLTL

1. [8 minutes] Introduce myself.

   (a) As the students are still coming in, write my name and email address on the board.

   (b) After all the students have come in, make a mental note of how many students are in the class so I know what number to count off to.

   For Groups of 3 to 4

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Count Off To</th>
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<tbody>
<tr>
<td>≤ 4</td>
<td>1</td>
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<tr>
<td>5 - 8</td>
<td>2</td>
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<td>9 - 12</td>
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<td>13 - 16</td>
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<td>17 - 20</td>
<td>5</td>
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<td>21 - 24</td>
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   For Groups of 1 to 2

<table>
<thead>
<tr>
<th>Number of Students</th>
<th>Count Off To</th>
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<tr>
<td>≤ 2</td>
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<td>3 - 4</td>
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   (c) “Hi everyone, my name is ____________ and I’m going to be your peer leader for your lab section every ____________. I’m a ____________ and a Computer Science major at UTEP. I took CS 1401 ____________ years ago with ____________. Right now I’m taking ____________. On the board, you can see my name and email address. Please feel free to send me an email any time you want to.

   (d) “As I said before, your peer leading session will be held during your lab every ____________ but we’re not going to work on the lab assignments during your peer leading session; however, you are still required to attend.

   (e) “The name of this program is PLTL; that stands for ‘peer-led team learning.’ The program is designed to help you succeed in this class and to help you develop skills that will aid you in other classes, like forming study groups and making social connections.

   (f) “In your PLTL sessions, you will be working in groups. We want every person in each group to be able to be responsible for their entire group. This ensures that one person won’t get stuck ‘doing all the work’ and that all of you will have an equal opportunity to participate.

   (g) “You won’t be in the same group every session, so you’ll definitely get a good chance to network with your peers.

   (h) “Peer leading was tested in the Electrical Engineering department and it proved to be highly successful. This is where we saw faster graduation and higher GPAs. It is also a well established practice at UTEP in Chemistry and Mathematics. Our version of PLTL is a little different from theirs. PLTL is an emerging educational strategy in the United States. Our data supports findings at other institutions.

   (i) “Probably the most interesting thing was the increase in students’ GPAs of a whole grade point. So, a student with a 2.2 GPA ended up having a 3.2 GPA later on. Of course, if you already have a 3.75 GPA, you won’t be getting a 4.75 GPA.”
if (!laughter) {
    make straight face && shake head;
}

(j) “Your GPA will be very important when you start negotiating your salary after you graduate. A higher GPA means a higher possible salary, and having more money is always a great thing!

(k) “Anyway, peer sessions will also enable you to ask your peers questions if your professors and TAs are not available to help you. You can also have study groups and get free food from the CS department! This is really neat and these fliers I’m passing out will tell you what you need to do to get free food. So make sure you take advantage of it, cause if you don’t, you’ll really be missing out!

(l) “So, how much do you think a computer science student who graduates with a bachelor’s degree will make their first year out of college?”

(m) The students’ answer should be around $50,000 or $60,000. Point at some students as I say the next sentence.

(n) “Would you be more motivated to wake up early and go to your classes if you got paid that much to do it? (Wait for an answer.) Yeah, I would too! I would get here at 4:00 AM every day if I were getting paid that much for it! Well, students who participate in peer leading sessions graduate, on average, about a year sooner than those who do not. So, imagine what you’d be doing with that $50,000. You could buy a new car, perhaps, or maybe pay off your student loans sooner.

(o) “So, does anybody have any questions about the PLTL program or your PL sessions?”

2 Introduction to Each Other

1. [7 minutes] Have the students make name tents. I will also make one for myself.

   (a) “OK, now we’re going to make name tents. The reason we are doing this is because we want you to get to know each other a little bit so that you all can work together more effectively. In case you don’t already know, you’ll find out what a name tent is in just a few minutes when we’re done. I’m going to make one along with you so you can see how we’re going to do it.”

   (b) Distribute a piece of paper to each student.

   (c) “Now fold your paper in half lengthwise, like mine.”

   (d) Hold my paper up so the students can see how I folded it.

   (e) “Now write your first name in the middle of your name tent with the folded edge facing up. You can write with pen or pencil but make sure it’s readable for me from the front of the room. Next, write your last name and the last four digits of your student ID number in smaller print under your first name. I need those to keep track of your attendance.

   (f) “Now, before we go on, I’d like to tell you that other people could read what you write on your name tents, so make sure it’s not too private. In the top-right corner of your name tent, write your reason for becoming a computer science major. If you’re not a computer science major, then write your reason for becoming whatever major you chose. If you haven’t picked a major yet, then write down a major you might like to choose. And no, partying is not a major, at least not yet... just kidding! Keep these pretty short; you only need to write a few words.

   (g) “In the bottom-right corner of your name tents, write the name of your favorite subject or class.

   (h) “Now, every week as you come into my lab session, you’re going to pick up your name tent from me as you walk in. I’m going to use the name tents to take attendance: after everybody is here, I know that the name tents I still have belong to people who are absent. I’m going to start taking attendance today.”

2. [3 minutes] Divide the students into groups of three or four (depending on the size of the class).

   (a) “Now we’re going to get into groups of three or four. I’m going to count off and then you’ll form groups.”

   (b) Count off to the predetermined number to get groups of three or four.
3. **6 minutes** Have the students work in groups and learn about each other.

   (a) “Now I’d like each of you to find two things that you have in common with another member of your group. You’re going to introduce that person to the class, so make sure you pay attention to them. You have three minutes.”

   (b) *Now pick a random person from each group. Repeat the next statement for each of these people.*

   (c) “Who did you find two things in common with? And can you tell us one of the things that you had in common with __________? OK, __________, what was your partner’s name? And what was the other thing you had in common with __________?”

   (d) “OK, now everybody write the two things you had in common with your partner in the remaining two corners of your name tents.”

3 Robot Group Work Exercise

1. **2 minutes** Explain the exercise to the students.

   (a) “OK, now we’re going to have a little bit of fun. As a student taking CS 1401, you need to understand algorithms. So, this exercise is going to help you. Those of you who are taking Dr. Kreinovich’s class probably remember when he pretended he was a robot and got instructions from his students. Well, we’re going to do something similar to that today.”

2. **3 minutes** Have the students form groups of two.

   (a) “I’m going to count off to put you in pairs.”

   (b) *Count off to the predetermined number to get groups of one or two. If there’s a single person left over, put him/her with some other group.*

3. **4 minutes** Have the students write an algorithm for the robot.

   (a) “OK, now that you’re all in groups, let me explain your task. With your partner, you’re going to come up with an algorithm that a robot can understand. The robot is going to have to begin sitting in this chair like this *(sit in the chair)*, touch this window *(walk to the window and touch it)*, and end up sitting down in this chair again. The robot is going to be able to understand only simple commands. For example, ‘walk x amount,’ ‘turn 45 degrees to the right,’ and so on. OK, get started. You have three minutes to come up with your algorithm.”

   (b) *While the students are doing this, write the following five phrases on the board:*

      (a) Be a more active listener

      (b) Offer suggestions or assist my team more

      (c) Try harder to stay on topic and manage time better

      (d) Let other people talk more

      (e) Make sure every person does only their part: no more, no less

   Have each student take turns describing their figures to the rest of their group.

4. **12 minutes** Act out the students’ algorithms to see how well (or if) they work.

   (a) “OK, is everybody done? Your time is up. Now I want each team to pair up with another team.”

   (b) *If the teams won’t pair up, put them together myself.*

   (c) “Now, together, you’re going to pick your best algorithm and write it down on a piece of paper. Next, when you’re done, you’re going to bring me your algorithm on your paper and give it to me. I’m going to be the robot and test your algorithm. The first team to give me an algorithm that I can successfully complete will get some chocolate! So, get started!”

   (d) *Let the teams try this until I can successfully follow an algorithm and complete the course. Give the team their chocolate.*
4 Peer Evaluations

1. [5 minutes] Allow the students to determine how they could have been a more effective group member.
   (a) “OK, we’re almost finished for today. I’m going to pass an index card out to each of you. Don’t write anything on it just yet.”
   (b) Pass an index card out to everyone.
   (c) “Now, there’s always room for improvement when working in groups. From these five phrases written on the board (point to the board), I want each of you to pick one of these ways in which you think you could have been a more effective team member and write it down on your index card. Now, next to it, write a specific example of how you could have done that on your index card.
   (d) “I’m always open to your input, so please also write any comments, questions, or suggestions you have about the peer leading sessions on your index cards. If you would like me to improve on something or if there was something you really enjoyed or really didn’t enjoy about the session today, be sure to write it down so I can make these sessions better. Remember, the cards are completely anonymous. Don’t worry; I’m not going to try to analyze your handwriting or anything like that.
   (e) “Any time at all you have questions or comments about the PL sessions or anything related to your CS class, please feel free to send me an email. I’m happy to help you any way I can.
   (f) “OK, you’re all free to go now. I hope you enjoyed yourselves today. Please put your name tents and your index cards on the desk as you leave. I’ll see you next week.”