Training TAs to Provide Feedback & Foster a Positive Motivational Climate

Workshop Handbook

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VIRGINIA TECH

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Purpose

The purpose of this handbook is to offer guidance for training Teaching Assistants (TAs) to engage in one-on-one interactions with students, with a focus on delivering effective feedback and fostering a motivational climate that supports student motivation and engagement.

Background

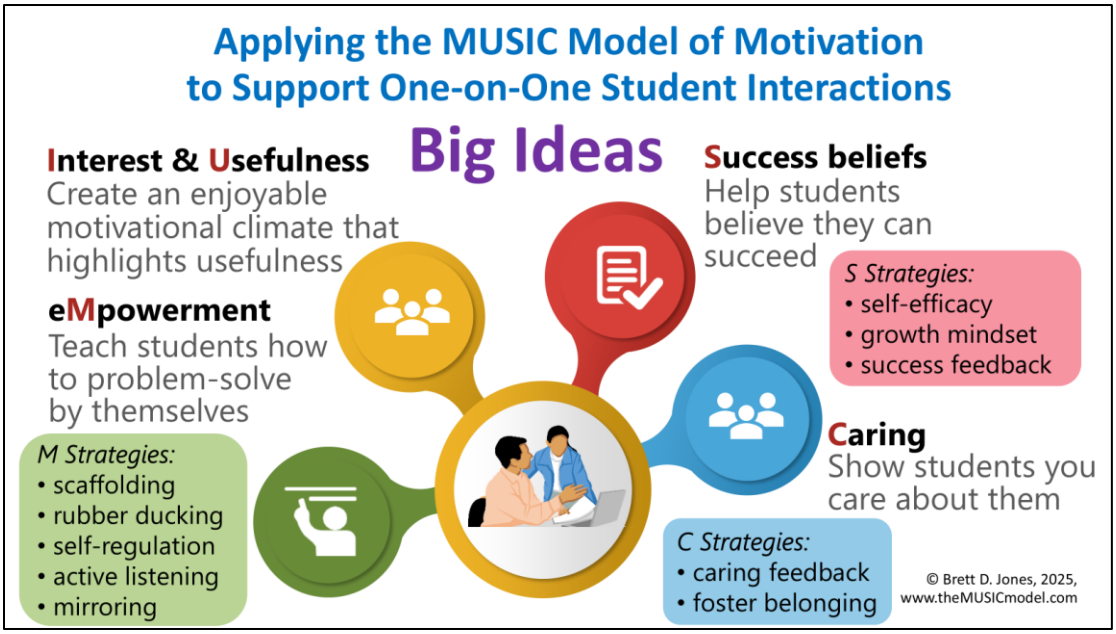
We developed a series of modules to support faculty in training TAs to work with students in ways that foster their motivation and engagement. These modules can also be used to train faculty or others who interact with students individually or in small groups. For motivational strategies that can be used to design whole-class instruction, see the MUSIC Model of Motivation website.

These modules were created as part of the National Science Foundation (NSF)-funded project titled *Training Computer Science Teaching Assistants to Motivate Students* (IUSE-2315574). The goal of this project was to use evidence-based practices to design, implement, and evaluate a training program specifically for computer science (CS) TAs to help them adopt teaching strategies that motivate students to engage in CS courses. However, the principles and activities presented in the modules are broadly applicable across a wide range of content areas beyond CS, especially with minor modifications. More information about the project and its outcomes is available in this blog post.

The training is grounded in the MUSIC Model of Motivation, which was selected as the theoretical framework because it is research based, it integrates concepts from multiple motivation theories, and it is straightforward for TAs and instructors to understand and apply. MUSIC is an acronym representing five key groups of strategies that can be used to motivate students: eMpowerment, Usefulness, Success, Interest, and Caring (Jones, 2009, 2018).

- **eMpowerment** – providing students with choices so that they feel in control of some aspects of the learning environment
- **Usefulness** – connecting the learning content and activities to students' goals in life.
- **Success** – helping students believe they can be successful
- **Interest** – creating an interesting and enjoyable learning experience
- **Caring** – developing caring relationships between people in the learning environment, including instructors, TAs, and students

We have packaged the key components of the training into four "Big Ideas," as shown in the image below. To teach these Big Ideas, we developed the modules presented in the next section.



Explanation of Modules

We created these 7 modules to cover some of the topics associated with the 4 Big Ideas:

1. Module 1: Overview of the Big Ideas and the MUSIC Model
2. Module 2: Scaffolding, Rubber Ducking, and Self-Regulated Learning
3. Module 3: Active Listening and Mirroring
4. Module 4: Self-Efficacy
5. Module 5: Growth Mindset
6. Module 6: Oral and Written Feedback
7. Module 7: Caring and Belonging

We used these modules to train computer science TAs during a one-day workshop, covering all seven modules. However, you may choose to use only the modules that are most relevant to your context or adapt them as needed to meet your specific needs.

The lesson plans for these modules are included in this handbook. We have also created a single **PowerPoint file** that contains all the slides that accompany the lesson plans. If you would like an editable Word version of the lesson plans provided in this handbook, please email Brett Jones at brettjones@vt.edu.

Big Ideas and Modules

This section lists the Big Ideas and guiding questions for each module.

Overview Module

Module 1: This module serves as an introduction to the Big Ideas and the MUSIC Model of Motivation. (Module is about 15 minutes)

Empowerment Modules

Big Idea 1: Effective TAs teach students how to problem-solve by themselves (empower students).

Module 2: How can TAs help students to use **metacognition** to **self-regulate** their learning? (Module is about 30 minutes)

- TAs can use **scaffolding** within students' zone of proximal development.
- TAs can teach students how to use **rubber ducking**.
- TAs teach students about **self-regulated learning**.

Module 3: How can TAs **listen to and question students** instead of simply telling them the answer? (Module is about 15 to 20 minutes)

- TAs can use **active listening** to understand students' questions.
- TAs can use **mirroring**.

Success Beliefs Modules

Big Idea 2: Effective TAs help students believe that they can succeed if they put forth effort and use appropriate strategies (support success beliefs).

Module 4: How can TAs use the four **sources of self-efficacy** to increase students' success beliefs? (Module is about 40 minutes)

- TAs can refer to students' past performances, they can have students observe others, they can provide students with positive feedback, and they can help students to manage their emotions.

Module 5: How can TAs help students to foster a **growth mindset**? (Module is about 20 minutes)

- TAs can provide feedback that helps students to believe that they are not limited by a fixed intelligence.

Module 6: How can TAs provide students with effective oral and written **feedback**? (Module is about 25 minutes)

- TAs can use research-based feedback strategies.

Caring Module

Big Idea 3: Effective TAs show students that they care about them and that they belong in the CS community at Virginia Tech (foster caring relationships).

Module 7: How can TAs provide feedback in a manner that helps students feel **cared for** and that they **belong** in the CS community at Virginia Tech?

- TAs can demonstrate **empathy**.
- TAs can help students feel that they **belong** in the CS community at Virginia Tech.

Interest and Usefulness

Big Idea 4: Effective TAs create a positive motivational climate that is enjoyable (interesting) and that highlights the usefulness of course activities (usefulness).

No module: How can TAs create a motivational climate that is enjoyable (not threatening or like drudgery) and connect the usefulness of activities to students' goals. (NOTE: This is not a separate module. These topics are taught throughout the other modules as they are relevant.)

Lesson Plans for Each Module

The lesson plans for each module are provided in this section, in the order listed below, or you can click on a module title to jump directly to its corresponding lesson plan.

Module 1 – Overview of the Big Ideas and the MUSIC Model

Guiding Question	What is this training about?
Time	About 30 minutes depending on how much time students spend in discussion groups
Materials	PowerPoint slides. Print out 2 copies of the scenarios on the PPT slides so that both TAs have their own copy when acting it out.

Note: Bold text in this document is read by the trainer.

START HERE

We're going to start with a scenario between a TA and a student.

[Have 2 TAs act out Scenario 1 with Response 1]
[Don't show slide until after acting]

Scenario 1, Response 1

TA: Hi, my name is xxxx, are you xxxx?
S: Yes.
TA: Nice to meet you. How can I help you?
S: I don't know how to get started on this assignment.
TA: What have you tried so far? Are you stuck at a certain point?
S: I just don't know how to get started.
TA: How much of the instructions have you read?
S: I was hoping you could just **show** me how.

TA RESPONSE 1: This is **your** assignment, you need to figure it out **yourself**. Please go look at it and come back to me if you have any questions.

- [Ask the TAs in groups]: **What are the strengths and weaknesses of how the TA responded?**
- [Try to get to these answers]:
    - Strengths: Whatever they say is fine
    - Weaknesses:
        - Could lead students to feel frustrated or that they can't succeed.
        - TAs may seem uncaring, they don't seem helpful or supportive.
        - Could deter students from seeking help from TAs in the future.
        - May or may not lead to learning if students still struggle.

Now let's see a slightly different response from the TA.

[Act out Scenario 1 again with Response 2]
[Don't show slide until after acting]

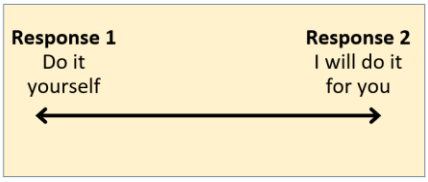
Scenario 1, Resopnse 2

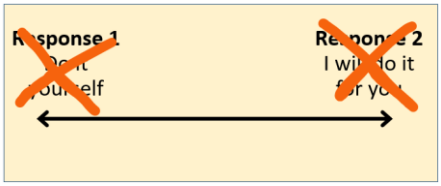
TA: Hi, my name is xxxx, are you xxxx?
S: Yes.
TA: Nice to meet you. How can I help you?
S: I don't know how to get started on this assignment.
TA: What have you tried so far? Are you stuck at a certain point?
S: I just don't know how to get started.
TA: How much of the instructions have you read?
S: I was hoping you could just **show** me how.

TA RESPONSE 2: Sure, no problem, let me show you how to do that. First you need to make your new movieDatabase class. Go click on the new class button….

- [Ask the Tas as a whole group]: **What are the strengths and weaknesses of this TA response?**
- [Try to get to these answers]:
    - Strengths:
        - The TA is helping them solve the problem.
        - The student's problem is solved so they can move to the next student.
        - The TA may seem caring.
    - Weaknesses:
        - It doesn't teach students how to think and solve problems for themselves.
        - [MAIN DISCUSSION POINT]: The problem here is that the TA immediately solved the problem for the student instead of allowing the student to think about ways to solve it.

Neither Response 1 nor Response 2 is what we wanted.





Let's take a look at one more scenario that is more in line with what you'll want to do.

[Act out the last line of Scenario 1 with Response 3.]
[Don't show slide until after acting]

Scenario 1, Response 3

S: I was hoping you could just **show** me how.

TA RESPONSE 3: OK sure, I'd be happy to help you. Let's start by opening up the instructions and looking at them together. What's the first thing that you're supposed to do?

S: I was going to do this.

TA: What's the next thing?

S: Then I was going to do this.

TA: Do you know how to do these things?

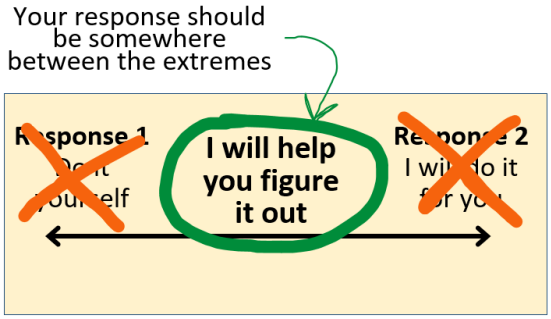
S: I think so, I think I remember.

TA: Why don't you go and try these by yourself for a little while and then come back and ask me some questions if you don't understand something or it's unclear.

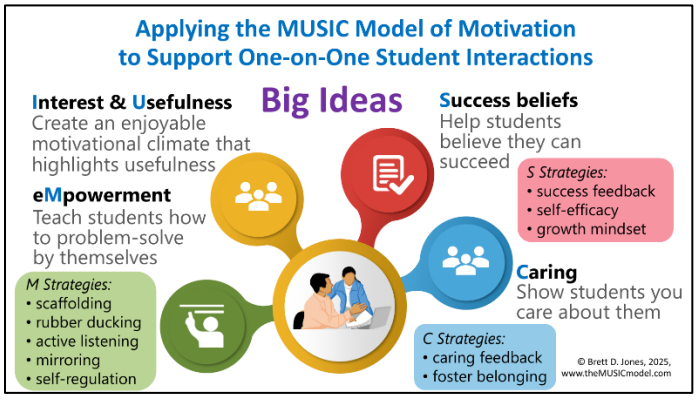
- [Ask the TAs in groups]: **What are the strengths and weaknesses of this TA response?**
- [Try to get to these answers]:
    - Strengths:
        - It teaches students how to self-regulate to solve their own problems.
        - It can build their confidence in being able to read instructions and make progress by themselves.
        - It is done in a caring manner.
    - Weaknesses:
        - It takes longer. Students may be frustrated that they didn't receive a quick answer.
- [DISCUSSION POINT]: Notice how the TA was caring in the way they delivered this suggestion. The point here is not to be dismissive or rude, but to be friendly, supportive, and on their side. You want to help them, but to do so, you're asking

them to do their part first by putting forth some effort.

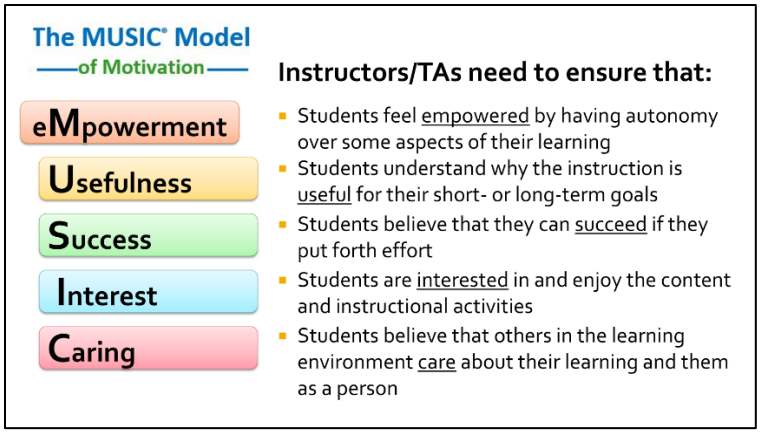
- Also notice that their body language was welcoming (arms were not crossed)



[You can show the next slide while saying this.]
Today we're going to cover the 4 Big Ideas shown on this slide. These ideas come from the MUSIC Model of Motivation, which is a researched-based motivation model that identifies strategies teachers can use to motivate students. MUSIC is an acronym where M stands for eMpowerment, U is for Usefulness, S is for Success, I stands for Interest/Enjoyment, and C is for Caring.



In the scenarios we just saw, the effective TA was empowering the student by helping them to solve the problem by themselves. They were also helping the student believe they could succeed, and they were doing all this in a caring manner.



For the remainder of this workshop we're going to build on these ideas by…[mention the other modules planned for the workshop and how they relate to the Big Ideas slide].

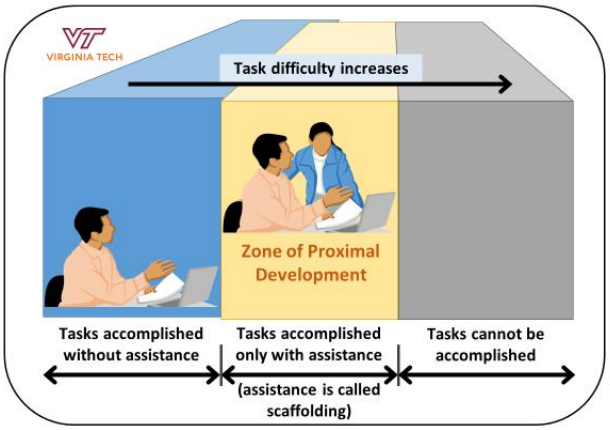
Module 2 – Scaffolding, Rubber Ducking, and Self-regulated Learning

Guiding Question	How can TAs help students to use **metacognition** to **self-regulate** their learning? • TAs can use **scaffolding** within students' zone of proximal development. • TAs can teach students how to use **rubber ducking**. • TAs teach students about **self-regulated learning**.
Time	About 30 minutes depending on how much time students spend in discussion groups
Materials	• PowerPoint slides. Print out 2 copies of the scenarios on the PPT slides so that both TAs have their own copy when acting it out • Video (see YouTube link below)

Note: Bold text in this document is read by the trainer.

START HERE

[Show the ZPD/Scaffolding figure, provide the explanation below, and discuss these concepts.]



The Zone of Proximal Development (ZPD) refers to the gap between what a student can do without assistance (by themselves) and what they can achieve with guidance from someone more knowledgeable, such as a TA, teacher, or peer. This "zone" represents the most effective area for learning. It is where tasks are challenging but achievable with support.

Scaffolding is the support provided to help learners work within their ZPD. It can take many forms, such as modeling a task, giving hints, or asking guiding questions. As learners gain confidence and skill, this support is gradually reduced until they can perform the task on their own. Together, the ZPD and scaffolding help explain how learning and development occur through interaction and gradually increasing independence.

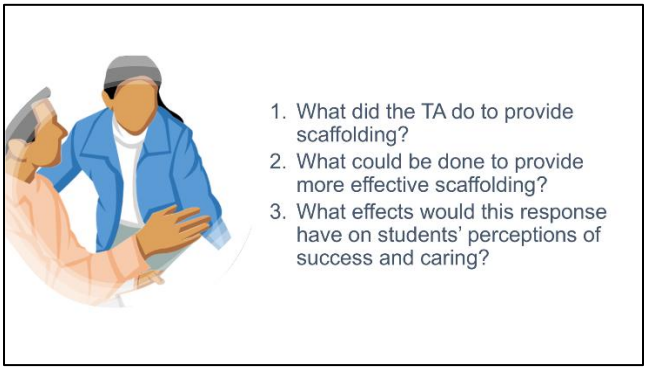
Now let's watch a scenario to see how this works with a TA and a student.

[Have 2 of the TAs act out Scenario 2]

Scenario 2

TA: Hi, how can I help you?
S: I keep getting a null pointer error and I don't know why.
TA: Ok, let's take a look. Can you show me what's going on?
S: (Opens laptop) Sure, let me get back to the file and recreate the compiler error.
TA: Ok, great, let's take a look. Having this to show me is a good way to get help! What does the error say?
S: It says this…..
TA: Ok, and where is this happening?
S: I'm not sure.
TA: Ok, let's look at the stack trace. As I read through the names of the files, let's find the first file of your code... Ok, it looks like it has something to do with line 53 in this file, click on that… What is that line of code doing?
S: It's a Null pointer exception.
TA: Any idea why that might be causing this error?
S: I don't understand. It should work.
TA: Is there something that could cause that error sometimes?
S: Well it's in the loop and it goes from 0 to n-1 so it should work.
TA: Are there any edges cases? It's often helpful to think about exactly what happens at the beginning and end.
S: It goes through all the slots of the array.
TA: What are the values in the array?
S: I don't know.
TA: Ok, let's draw a picture. Let's also use the debugger…

With your partner, answer these questions [then elicit responses from the entire class]:



[Get a few answers from the whole group. Expected responses: Self-regulation through modeling, teaching students how to problem solve, and use scaffolding.]

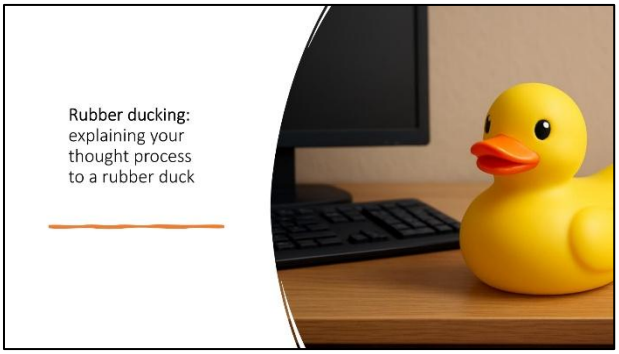
What did the TA do? She asked questions. She modeled how to walk through the problem. This is scaffolding.

- <u>Success</u>:
    - Success perceptions may increase because the student is figuring it out by themselves. It gives them firsthand experience in succeeding. [Just mention it here and then we'll go into more detail later.].

- Caring:
    - It is done in a caring manner, which is good.

As you can see, students need help digging into the problem. Sometimes they may not be motivated but sometimes they may not know the steps or processes to take, so part of your job is to model this for them.

This process is sometimes called rubber ducking. [Show this slide]



Rubber ducking fosters *self-regulation* and can increase their belief that they can succeed if they are actually successful. It can also be perceived as more caring because the TA is guiding them instead of simply providing the answer.

This helped them to practice self-regulation, which is explained in this video: https://www.youtube.com/watch?v=OoM3oNIYUFc&list=PL6ihFEvicZRCOEbfvjkWPculxOhSsNwt2&index=9 (3:21 min)

Briefly, explain the main points of that video to the person next to you. Any questions?

[Discuss any questions or related points they have.]

PRACTICE

Now we're going to let you practice providing scaffolding comments to help students become better at self-regulation. Remember to do it in a caring manner.

Let's watch another short scenario
[TAs act out Scenario 3, then show slide]

Scenario 3

TA: Hi, my name is [insert name]. What's your name?

S: [Say name]

TA: Nice to meet you. How can I help you?

S: I'm having trouble getting this code to run, can you help me with it?

In pairs: What question can the TA can ask at this point to get the student to use rubber ducking as a way to solve their problem?

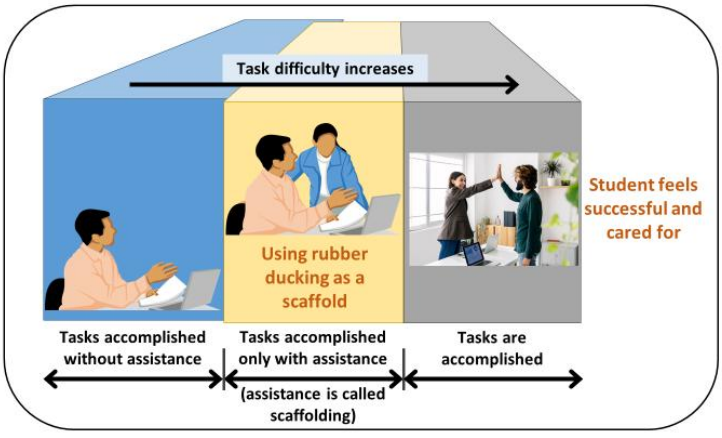
[Call on a few pairs of students for answers]

Here are some more examples of how you could respond. [show this slide]

Examples of phrases to provide scaffolding

- "Tell me more about..."
- "What happened when you tried that?"
- "Can you walk me through your code line by line?"
- "Were there any examples of that in the textbook or lecture slides?"

So as a reminder, you are providing scaffolding to provide them with assistance to help them, you're not simply giving them the answer. This can increase students' perceptions of empowerment, success, and caring. If you have a good attitude and convey optimism, it can also be enjoyable for students. [
show this slide]



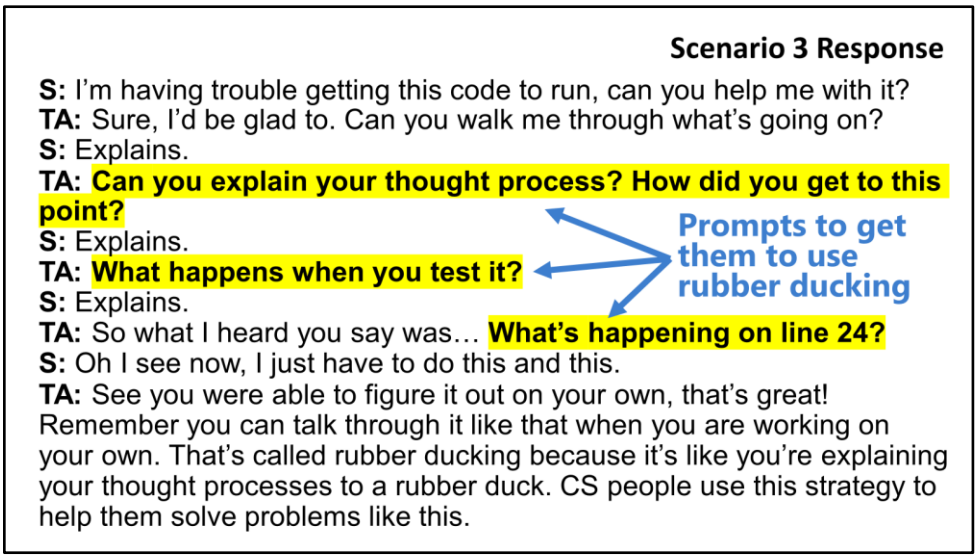
Let's look at a more complete example of a TA providing rubber ducking as a way to scaffold in a caring manner.

[TAs act out a rubber ducking Response to Scenario 3]

Scenario 3 Response

S: I'm having trouble getting this code to run, can you help me with it?
TA: Sure, I'd be glad to. Can you walk me through what's going on?
S: Student explains…
TA: Can you explain your thought process? How did you get to this point?
S: Student explains...
TA: What happens when you test it?
S: Student explains...
TA: So what I heard you say was… What's happening on line 24?
S: Oh I see now, I just have to do this and this.
TA: See you were able to figure it out on your own, that's great! Remember you can talk through it like that when you are working on your own. That's called rubber ducking because it's like you're explaining your thought processes to a rubber duck. CS people use this strategy to help them solve problems like this.

Where did the TA use rubber ducking?
[After answers, show this slide.]



In this scenario, we see that the TA has used rubber ducking as a scaffold to help the student solve their problem and self-regulate. As a result, the student feels successful and cared for.

Notice too that helping students to use rubber ducking is a way for them to practice their own self-regulation.

Module 3 – Active Listening and Mirroring

Guiding Question	How can TAs **listen to and question students** instead of simply telling them the answer? • TAs can use **active listening** to understand students' questions. • TAs can use **mirroring**.
Time	About 15 to 20 minutes
Materials	• **PowerPoint slides** • Video: https://www.youtube.com/watch?v=tZke7zw1eq0 (3:35 min)

Note: Bold text in this document is read by the trainer.

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Let's keep building on these ideas and talk about some other important teaching skills such as active listening and mirroring. I'm sure some of you are already very good at this, but maybe you haven't thought about how you can use your active listening skills when working with students.

[Show the active listening video]
https://www.youtube.com/watch?v=tZke7zw1eq0 (3:35 min)

Here's a summary of the main points from the video. Do you have any questions?

Now let's look back at Scenario 3 again
[Show them Scenario 3 on the slide below and ask them the question at the top of the slide]:

Where did the TA use active listening and mirroring in this scenario?

Scenario 3 Response

S: I'm having trouble getting this code to run, can you help me with it?
TA: Sure, I'd be glad to. Can you walk me through what's going on?
S: Student explains…
TA: Can you explain your thought process? How did you get to this point?
S: Student explains…
TA: What happens when you test it?
S: Student explains…
TA: So what I heard you say was… What's happening on line 24?
S: Oh I see now, I just have to do this and this.
TA: See you were able to figure it out on your own, that's great! Remember you can talk through it like that when you are working on your own. That's called rubber ducking because it's like you're explaining your thought processes to a rubber duck. CS people use this strategy to help them solve problems like this.

Scenario 3 Response

S: I'm having trouble getting this code to run, can you help me with it?
TA: Sure, I'd be glad to. Can you walk me through what's going on?
S: **Explains**.
TA: Can you explain your thought process? How did you get to this point?
S: **Explains**.
TA: What happens when you test it?
S: **Explains**.

Active listening while student explains

TA: So what I heard you say was… What's happening on line 24?
S: Oh I see now, I just have to do this and this.
TA: See you were able to figure it out on your own, that's great! Remember you can talk through it like that when you are working on your own. That's called rubber ducking because it's like you're explaining your thought processes to a rubber duck. CS people use this strategy to help them solve problems like this.

Scenario 3 Response

S: I'm having trouble getting this code to run, can you help me with it?
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S: Explains.
TA: Can you explain your thought process? How did you get to this point?
S: Explains.
TA: What happens when you test it?
S: Explains.
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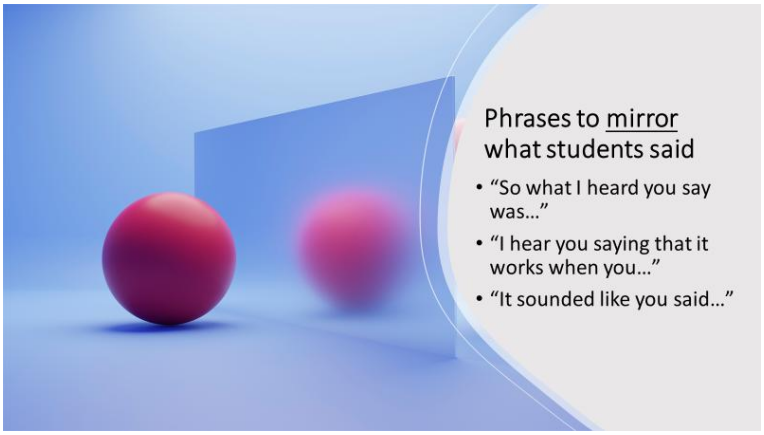
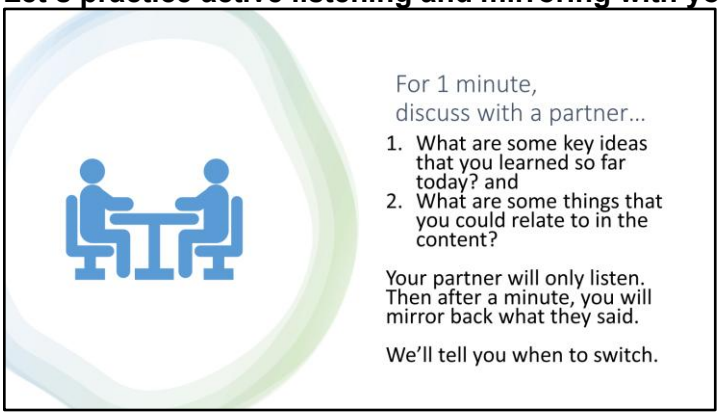
Active listening while student explains

Mirroring here

Here, to mirror, the TA said "So what I heard you say was…." Other things you can say to mirror are…



Let's practice active listening and mirroring with your partner. [Read next slide]



Module 4 – Self-Efficacy

Guiding Question	How can TAs use the four **sources of self-efficacy** to increase students' success beliefs? • TAs can refer to students' past performances, they can have students observe others, they can provide students with positive feedback, and they can help students to manage their emotions.
Time	About 40 minutes
Materials	• **PowerPoint slides** • Video: see YouTube link below

Note: Bold text in this document is read by the trainer.

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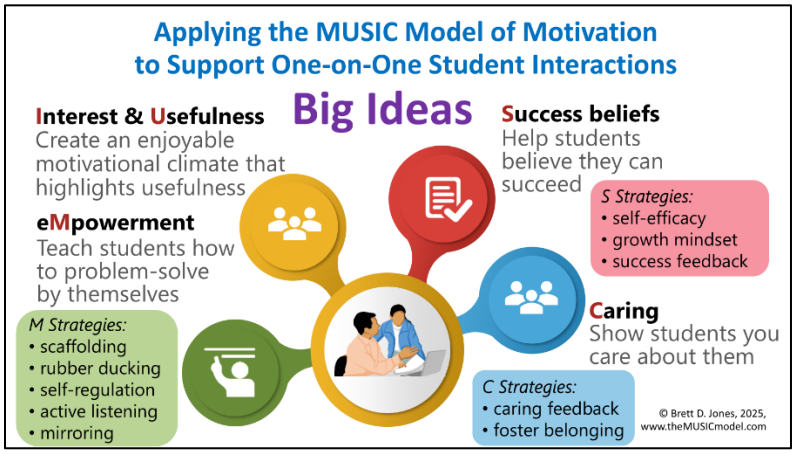
[Show this slide]

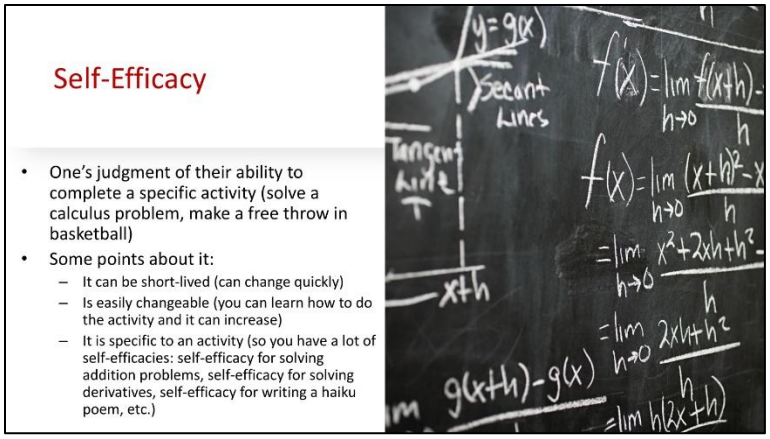


So far we've mainly focused on eMpowering students by teaching them how to problem-solve independently using strategies such as scaffolding, rubber ducking, self-regulation, active listening, and mirroring. Now we want to focus more on your role in fostering students' SUCCESS BELIEFS.

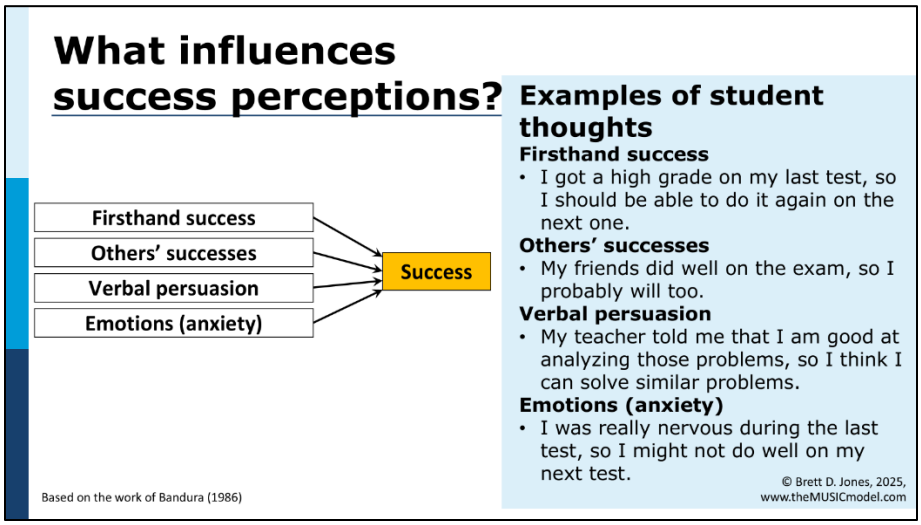
[Show video on self-efficacy.]

https://www.youtube.com/watch?v=zTiJfhvenRU&list=PL6ihFEvicZRCOEbfvjkWPculxOhSsNwt2&index=3 (3:35 min)

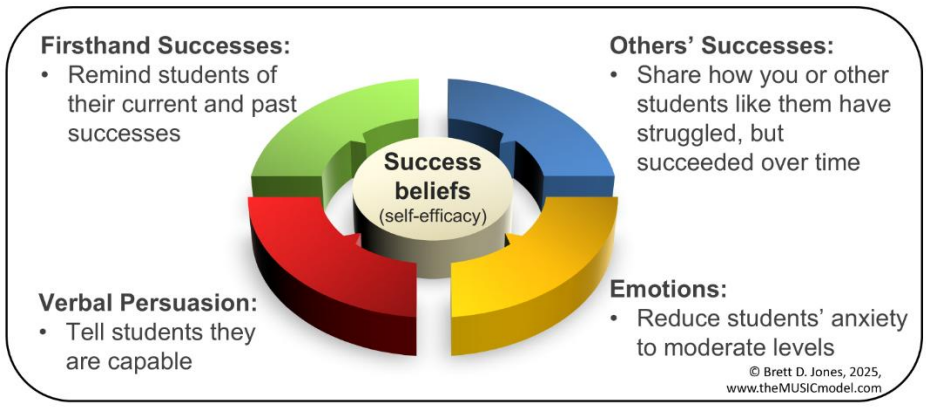
[Cover the points on the slide]



There are 4 things that affect students' Success beliefs:



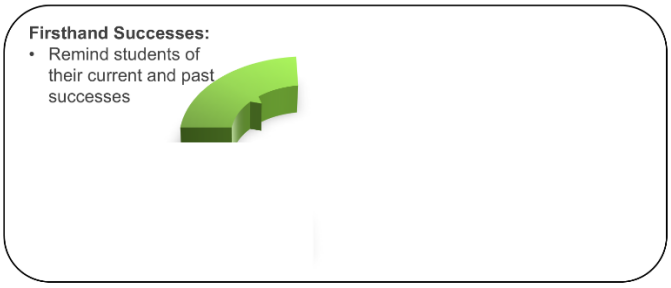
So you can use these four things to help students believe that they can succeed.



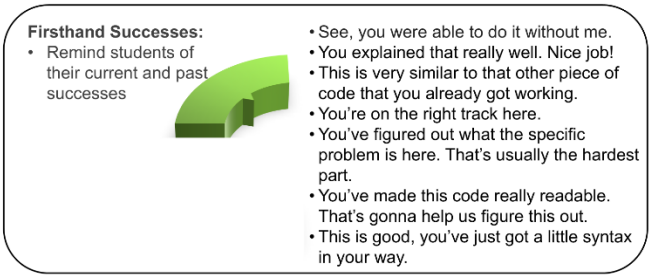
[Have them discuss in small groups]:

What are some specific things that you could do as a TA to address each of these four things?

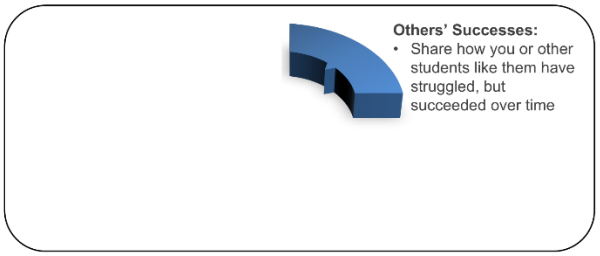
[Ask class, **what did you come up with for this...]**



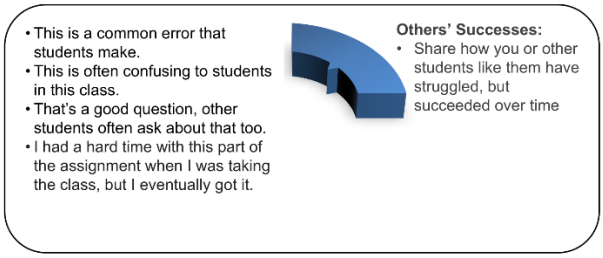
[After you get some answers, show these and discuss as needed.]



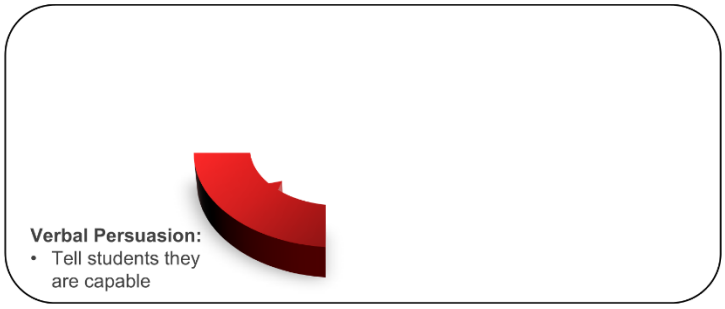
[Ask class, **what did you come up with for this...]**



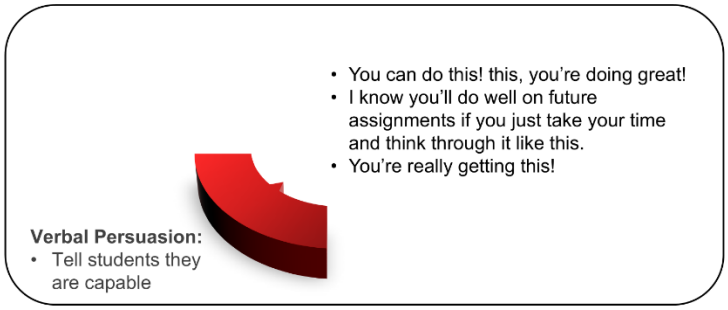
[After you get some answers, show these and discuss as needed.]



[Ask class, **what did you come up with for this...]**

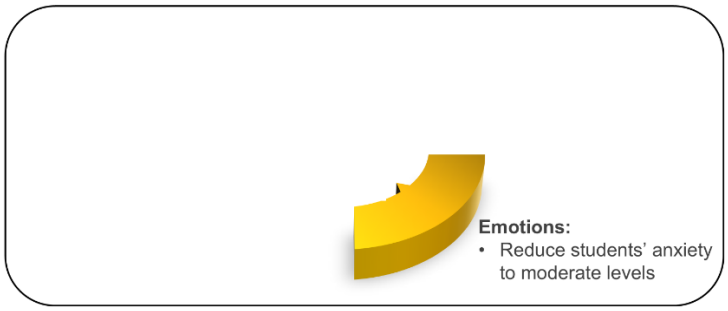


[After you get some answers, show these and discuss as needed.]

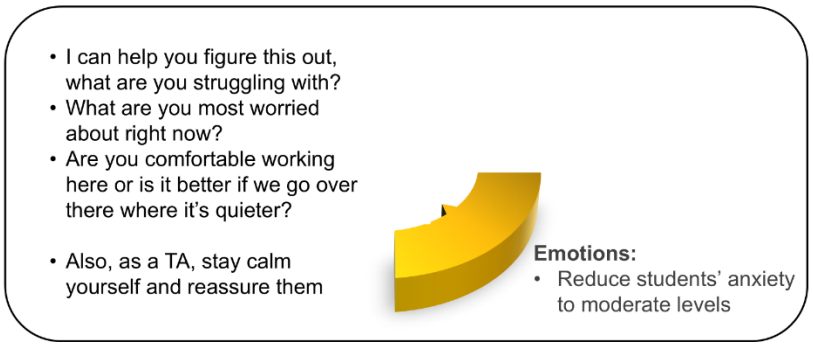


Sometimes it's hard to find things they're doing well, but find something and build on it. Be honest – don't overdo it.

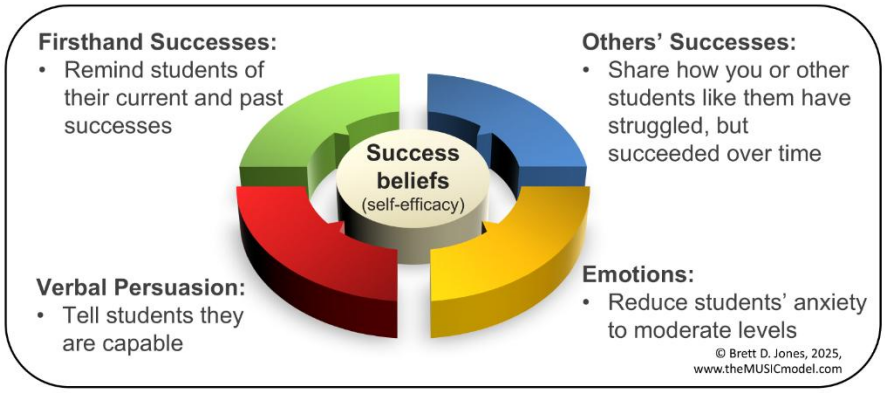
[Ask class, **what did you come up with for this...]**



[After you get some answers, show these and discuss as needed.]

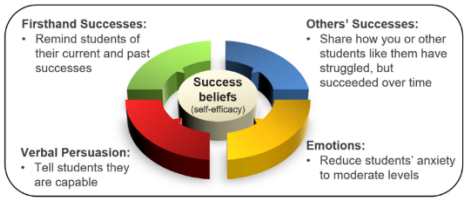


So these are 4 main ways that you can use to increase students' Success beliefs.



Now let's watch another scenario. For this one, label each of the TA responses as one of the four ways to influence Success beliefs.

[TAs act out Scenario 4, don't show slide until after acting]



Scenario 4

TA: Hi, how can I help you?
S: I keep getting a null pointer error and I don't know why.
TA: That's a good question, other students often ask about that too, but then they eventually get it. Show me what you've done so far.
S: Here it is, I'm so frustrated with this…
TA: OK, I see. I can help you figure this out, we can do this. Let's start here. Can you see how this is similar to that other problem we did in class?
S: Yes, right, now I see. I can do this…
TA: Right, this is good, you've just got a little syntax in your way, you can do it!

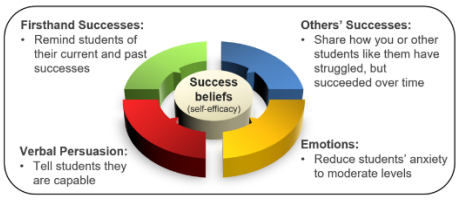
With your partner, label each one of the TA comments as one of the four ways to influence Success beliefs.

Scenario 4 answers

TA: Hi, how can I help you?
S: I keep getting a null pointer error and I don't know why.
TA: That's a good question, other students often ask about that too, but then they eventually get it. **[Others' successes]** Show me what you've done so far.
S: Here it is, I'm so frustrated with this…
TA: OK, I see. I can help you figure this out, we can do this. **[Emotions]** Let's start here. Can you see how this is similar to that other problem we did in class?
S: Yes, right, now I see. I can do this…
TA: Right, this is good, you've just got a little syntax in your way, you can do it! **[Firsthand successes; Verbal persuasion]**

The point here is not to worry too much about trying to come up with a statement for each of these four strategies every time, but rather, to support students' overall beliefs that they can succeed if they put forth the effort and use the right strategies.

Now let's practice using these 4 ways to increase students' Success beliefs.



Scenario 5

A student has been successfully working with a TA over the past few weeks. Today, this student shows the TA their coding assignment and asks for feedback because it doesn't work the way it's supposed to. The student is clearly frustrated because they've been working on it for a while. The TA sees that the code is very disorganized.

You and your partner should each provide one example of something the TA could say to the student for each of the four sources of self-efficacy.

[Select a few students to share their responses for each of the four sources of self-efficacy/success beliefs.]

Module 5 – Growth Mindset

Guiding Question	How can TAs help students to foster a growth mindset? • TAs can provide feedback that helps students to believe that they are not limited by a fixed intelligence.
Time	About 20 minutes
Materials	• PowerPoint slides • Video: see YouTube link below

Note: Bold text in this document is read by the trainer.

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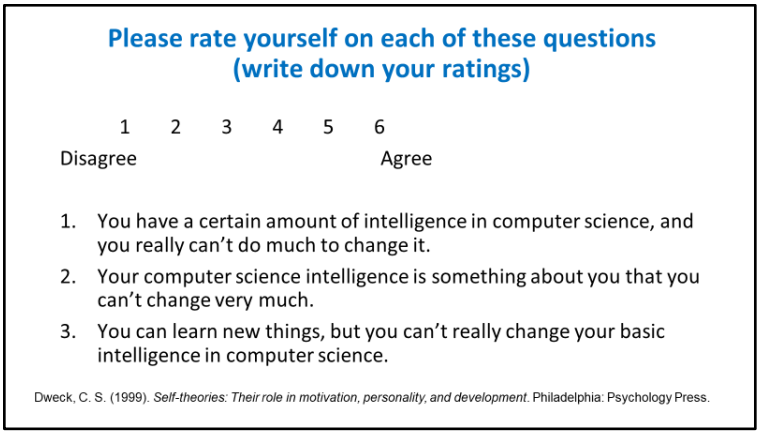
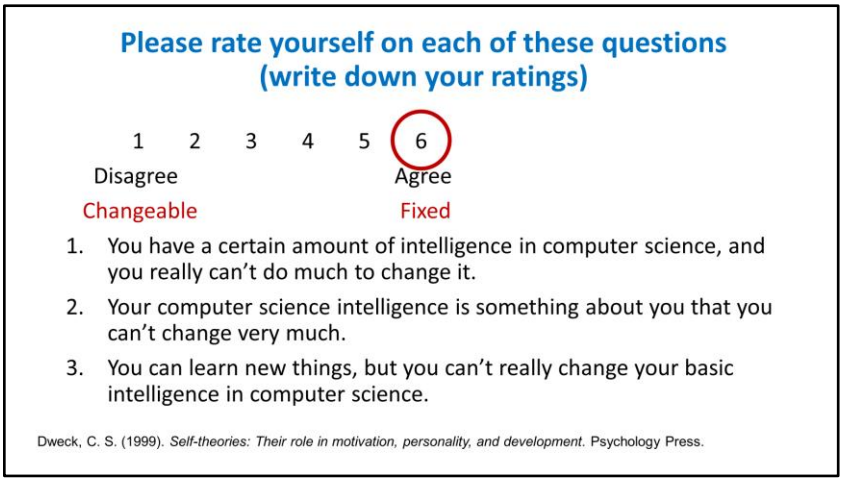
[Show this slide and ask the question on it.]



Now, average your three responses by adding them up and dividing by 3.



If your score is a 6, that means that you believe that CS intelligence is <u>fixed</u> and you can't do much to change it.
If your score is a 1, that means that you believe that your CS intelligence is <u>changeable</u>

and you can do things to improve it.

This video will explain some of the differences between a fixed and changeable mindset.

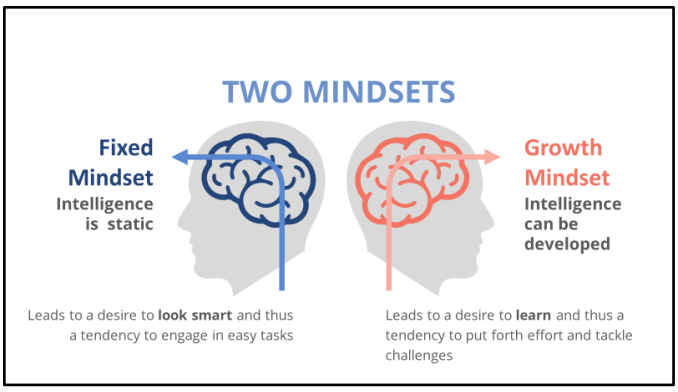
[Show video of Growth Mindset]

https://www.youtube.com/watch?v=c0vjzdVojKw&list=PL6ihFEvicZRCOEbfvjkWPculxOhSsNwt2&index=4 (3:28)

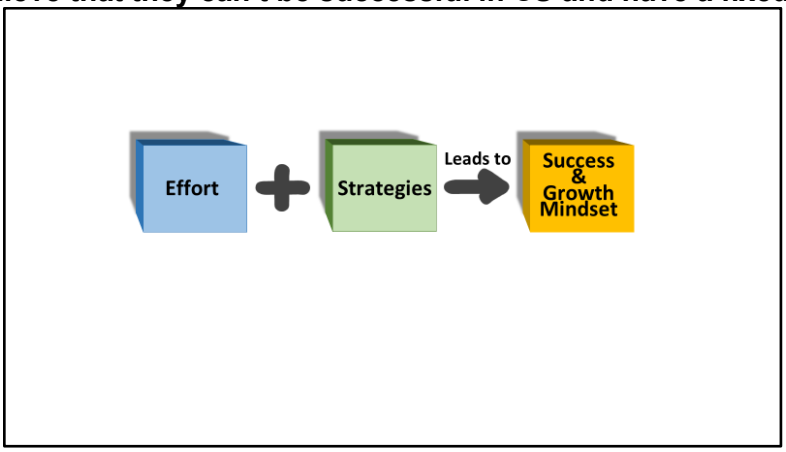
Here's a summary of some of the points in the video. The reason these mindsets are important is because they have been shown to affect students' motivation and effort.

It might seem obvious to you that a growth mindset is better, but many college students have a fixed mindset and have not thought about the fact that they are not limited by their brain and that they can get "smarter" if they put forth effort and use effective strategies.

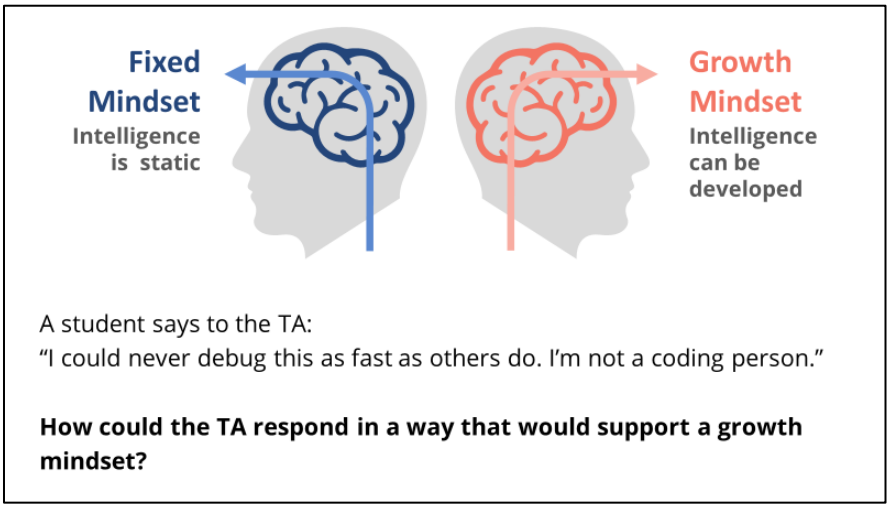
What questions do you have about it?



The way to help students achieve an optimal level of motivation is to help them understand that they need to use effort and strategies to become successful. And over time, if they see that this is true, they will develop a growth mindset. If they don't, they may believe that they can't be successful in CS and have a fixed mindset.



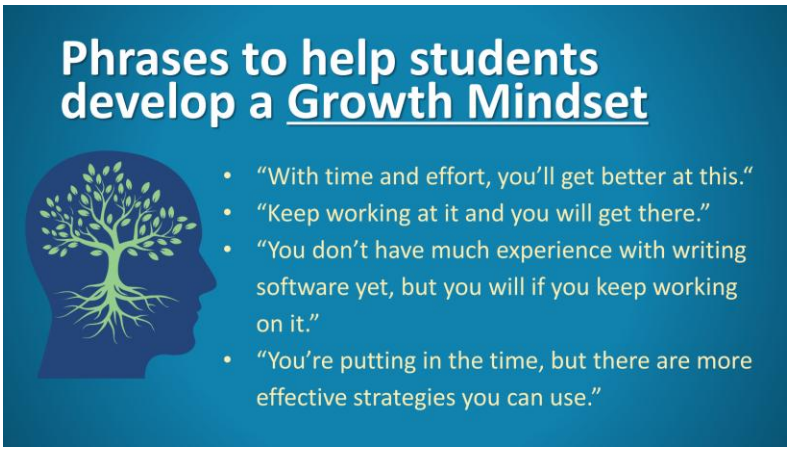
Tell your partner one way that a TA could respond to this student statement:



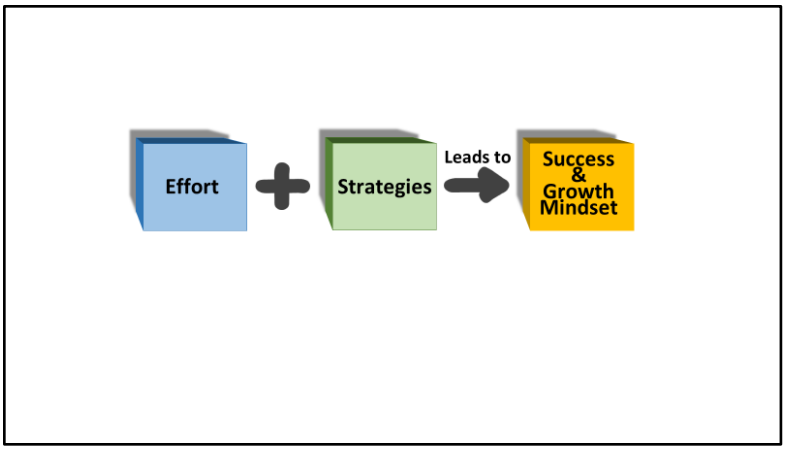
[Discuss how their responses affect mindset and self-efficacy.]
Possible answers:

- "Well, you may not be able to code really fast right now, but you will get a lot faster as you practice more."
- "Others can code faster because they've been doing it longer than you. That's fine, you'll get faster over time too."

[Show slide and discuss these other phrases]



Remember that the main point is to focus on their effort and correct use of strategies.


Effort
Strategies
Leads to
Success & Growth Mindset

Module 6 – Oral and Written Feedback

Guiding Question	How can TAs provide students with effective oral and written feedback? • TAs can use research-based feedback strategies.
Time	About 25 minutes
Materials	• **PowerPoint slides** • Video: see YouTube link below

Note: Bold text in this document is read by the trainer.

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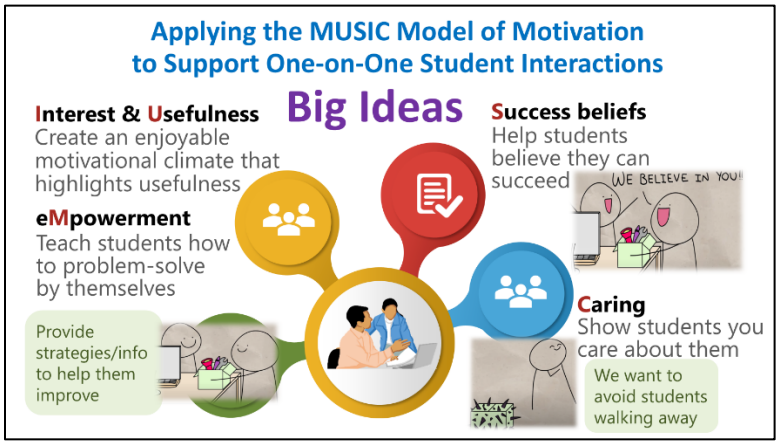
So far , we've been talking about how to help students when they come to you in person with questions. However, another part of your job will be to give feedback to students *in writing* when you grade their assignments and answer their questions in Piazza. When you give written feedback, you also need to apply the MUSIC model.

This video presents some other points that you'll want to consider when giving feedback to students, especially on projects and assignments.

[Show this video about Feedback]: https://www.youtube.com/watch?v=-WkQfgnU8GE (3:35)

So as you can see, in your feedback, you're still doing these things: [show slide]



Now let's look at some feedback that was given on a project last semester. With a partner, answer the two questions shown here in red:

Project Feedback

1. **Is this feedback appropriate given what you know about success beliefs, growth mindset, and caring?**
2. **What could be improved?**

GUI (-1):
- Window opens and buttons work but an exception is thrown everytime the window is opened -1

ProjectRunner:
- Did not include comments describing the purpose of main and args. You should include comments describing the purpose of main and args. (no deduction this time), you covered main but missed args.

Display Collection (-1):
- Hard coded the value 4 instead of using STRINGS.length when selecting the random string: -1

Test Bag Size:
- Good Work!

Test Bag Contents (-2):
- The loop in testBagContent only checks half/some of the contents of the bag. Using size as the limit in the loop (for example for (int i= 0; i < itemBag.getCurrentSize(), i++) is not appropriate since removes are done inside the loop. The current size will decrease each iteration of the loop and the bag will still contain items when the loop terminates: -2

General Notes:
- Be sure to make sure class-level jdocs explain what the class does (or what part of the program it's responsible for), you are not very good at doing this.
- Good job breaking your code up with whitespace to increase readability!

[Discuss their answers]

Project Feedback

1. **Is this feedback appropriate given what you know about success beliefs, growth mindset, and caring?**
2. **What could be improved?**

GUI (-1):
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General Notes:
- Be sure to make sure class-level jdocs explain what the class does (or what part of the program it's responsible for), you are not very good at doing this.
- Good job breaking your code up with whitespace to increase readability!

Specific feedback

Success beliefs

Don't criticize the person

Specific feedback, Success beliefs

[Read the main points of the next slide one by one]

Important Points About Giving Feedback

- Be honest (if something isn't correct, let them know), but in a **caring** and supportive manner (be respectful and friendly)
- Support their **success** beliefs by noting what the student did well, but don't give false or empty praise and don't praise for easy tasks.
- Convey confidence in the student's ability to **succeed**
  - For example: I know you can do this because you did the work well in CS1.
  - For example: Your work on your prior assignments shows me that you can do the work.
- Reinforce a **growth mindset** by focusing on their effort and use of correct strategies
- With critical feedback, critique the work but don't criticize the person.
- Be specific when criticizing (avoid being vague) and identify specific things that could be improved.
- If the code needs a lot of work, don't identify every little detail that could be improved. Focus on the big things that tie most directly to the concepts they are supposed to be practicing in that assignment.
- Tie smaller details to big picture of assignment and key course concepts
  - For example: This code could have been made more efficient as opposed to reusing the .equals method to check each shape type, think about that for future projects.

Module 7 – Caring and Belonging

Guiding Question	How can TAs provide students with effective oral and written feedback? • TAs can use research-based feedback strategies.
Time	About 25 minutes
Materials	• PowerPoint slides. Print out 2 copies of the scenarios on the PPT slides so that both TAs have their own copy when acting it out. • Video: see YouTube links below

Note: Bold text in this document is read by the trainer.

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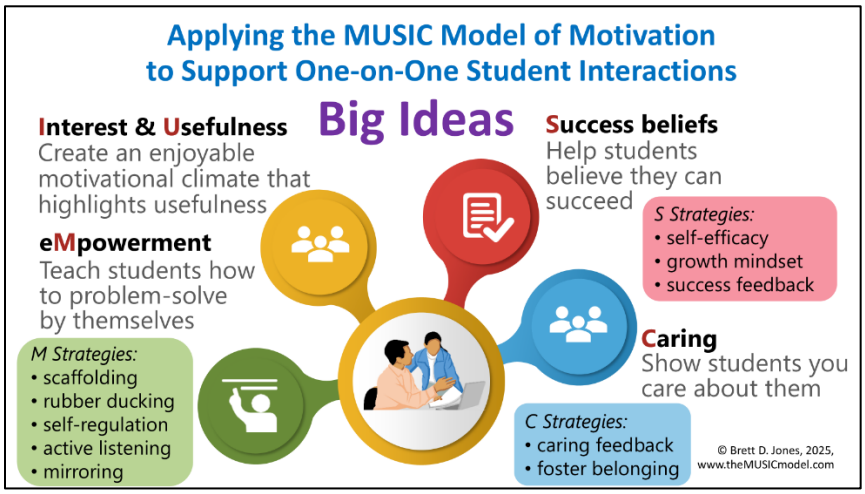
[Show the slide below]

So far we've discussed these concepts. Now let's talk more specifically about caring and the related concept of belonging.

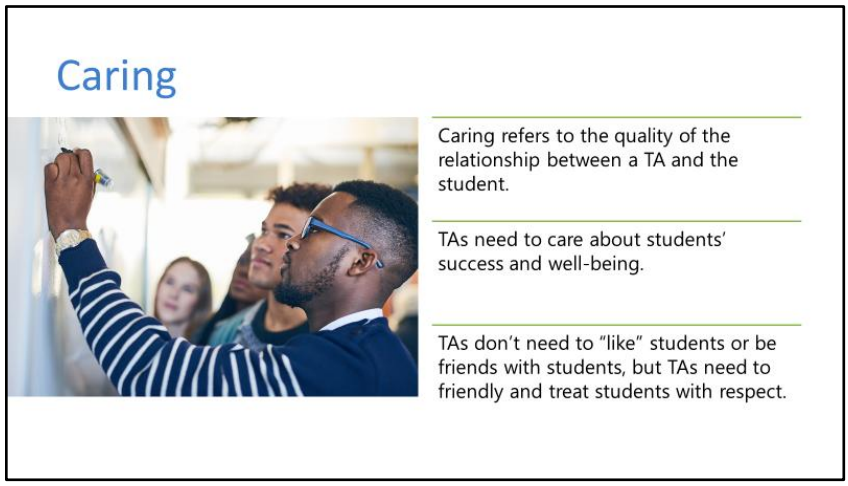


[Show Belonging videos:]

Part 1: https://www.youtube.com/watch?v=P6djsqiiXRM (2:02)
Part 2: https://www.youtube.com/watch?v=mX6cQKFelf0 (1:48)

The strategies in the videos are helpful, and a lot of what you do to make students feel included is related to Caring.

[Let them read this Caring slide]



What questions do you have about this?

Now let's look at a couple scenarios to see how certain responses may make students feel and see what the TA could say to make the interactions more caring.

[Show slide (they appear one at a time) and discuss as a whole group after each TA response. You want to get to the idea that the third one is the best response.]

How would these responses make students feel? **Scenario 5**

S: I didn't realize that the assignment was due last night because the professor didn't say anything in class. Will it really be counted as late?

TA1: Sorry, but you need to keep up with the assignments, it's not our job to keep reminding you about when things are due, I have enough to do without worrying about you.

TA2: Dude, that seems unfair. I would if I could, but the instructors do that kind of thing and they are not nice about it. It sucks

TA3: I'm sorry that you didn't realize that the assignment was due last night. Unfortunately, you are responsible for keeping up with the assignments by looking at the schedule on the syllabus and Canvas, so there's not really anything I can do at this point.

[Act out Scenario 6 and don't show it at first]

How would these responses make students feel? **Scenario 6**

S: I don't think my project should be counted as late because webcat was taking forever. I submitted it a half an hour before the deadline, but it didn't compile and I didn't get the feedback until an hour later. Can we count that second submission as on time?

TA: I understand. However, we did warn you that webcat would be very busy on the night that the project is due. That's why you'll want to start earlier next time.

S: But all of the labs gave me feedback right away!

TA: I get how that's frustrating. But we don't guarantee you instant feedback from webcat. It would be unfair to other students to amend the rules now.

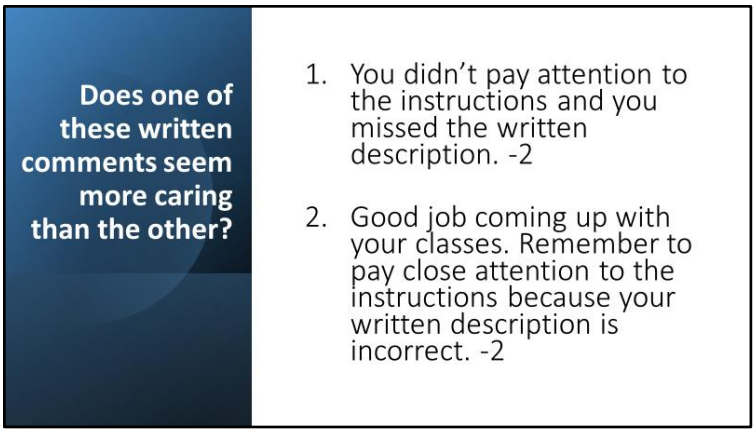
S: But it's not my fault that webcat was being dumb

TA: Ultimately, I don't have the authority to do what you want. You could talk to professor Ellis, but she's going to tell you the same thing.

Some final points you can make:

- **Does every single comment the TA provides have to have caring? No, but the overall tone of the feedback should be caring.**
- **Caring means being friendly, it doesn't mean that you have to be friends with them. In fact, you can't be friends in this relationship because you have power over them.**
- **Caring doesn't mean giving in to the student, it means upholding the rules in a respectful manner.**

Remember that you will also be perceived as being caring or not in your written feedback.



[Get some responses from students]

It's hard to know exactly how students are going to interpret your written feedback, but it's important to try to be caring and supportive.

END