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FACILITATOR/INSTRUCTOR GUIDE TO

“Supporting Students’  
Mindset Development as They  
Navigate Challenges”

*Deeper Learning Modules*

Thank you for exploring the Deeper Learning Module materials! This faculty/instructor guide provides important information & recommendations for integrating the “**Supporting Students’ Mindset Development as They Navigate Challenges**” module into your teacher preparation course(s). We hope this guide will be a useful resource as you implement the Mindset module materials with teacher candidates!

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## ACCESSING THE MODULES IN CANVAS

The [module materials](#) are currently being shared as an open education resource (OER) through the Commons section of Canvas Free for Teacher. For technical information, please reference the separate “Technical Guide to Using Canvas” located in the Faculty/Instructor Resource section. Your program IT support may also be able to assist if you have additional questions about how to access this module and share it with your candidates.

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## PROJECT OVERVIEW

The Stanford Center for Assessment, Learning and Equity (SCALE) created the *Deeper Learning Modules* in collaboration with a national design team of teacher educators and experts in deeper learning, with generous support from the William & Flora Hewlett Foundation. This collection of online modules and applied activities focuses on building teacher candidates' capacity to foster deeper learning for all students. If you have questions about their use, you can contact [info@thescalegroup.org](mailto:info@thescalegroup.org).

## INFORMATION ABOUT THE MODULES

### Flexible implementation design

All modules were designed with structure and flexibility in mind. Below we explain where the module is flexible and can be adapted or modified to meet your program and context needs, and where the module was designed to remain intact.

-  **All modules were designed** to be flexibly integrated and facilitated by faculty/instructors within an existing course(s) where they are most relevant and/or appropriate.
-  **The sections** of the modules build on each other in a planned sequence and flow.
-  **Sections are meant to be implemented** in the order presented.  
*While the content of the instructional slide videos cannot be modified, candidates are able to pause, rewind, slow the speed and/or re-watch them in order to focus on particular parts.*
-  **The core activities** in each module were designed to provide evidence of each candidate's application of what they learned during the module. Although core activities are generally meant to be used as designed, there may be some parts of the core activity that embed different options or choices.
-  **Modifications can be made** within the sections of the modules in places where you as faculty/instructors feel additional support, scaffolding or content would further contextualize the materials and learning activities for your candidates. Examples might include revising or adding discussion questions within Canvas, modeling strategies shared, or providing additional case studies/videos or subject specific examples.
-  **Note that transcripts have been provided** for all instructional slide videos, which also have the option of turning on captions.

**Assignment submission options.** The [original SCALE version of the module](#) is available for use on a **view-only** basis. You may share it with candidates in this view-only format, but commenting, assignment submission, and customization features will be turned off.

If you wish to use those **embedded submission or customization features**, we've provided an import/export file in Canvas that you can use to create your own duplicate course shell for the module, specifically for you and your candidates. If you were already using Canvas as the LMS for your broader course, you can also import the module file into that existing shell.

**Virtual instruction contexts.** These modules were created during a highly unusual time for teacher preparation when in-person instruction was limited. With this in mind, we have designed the module so it can be implemented and facilitated in a virtual format. This means that candidates do not need to meet in person or have direct access to a classroom in order to complete the activities and assignments included in the modules, although it may be helpful.

# MODULE OVERVIEW

**Module Title:** “Supporting Students’ Mindset Development as They Navigate Challenges”

## Driving question

“How can you support P-12 students in building their academic mindset towards persisting & persevering with challenging activities?”

## Overall learning goal

Design deeper learning activities that integrate support for academic mindset development as students persist & persevere with challenges.



Total estimated time for all online & applied activities: **8-10 hours**

## Prior knowledge & skills needed:

- Working understanding of the concept of deeper learning (see general resources below)
- Working understanding of teachers’ role in supporting students in their socio-emotional development as a learner in the classroom (e.g., as part of developing the whole child)

## Module Sections

**Optional deeper learning resources.** There are optional Deeper Learning Resources provided within Canvas as general background information. As instructors, decide how to best use these resources with your candidates. For example, it may be helpful to have candidates review them before beginning the module to develop a shared understanding of Deeper Learning.

### Section 1

What is your mindset towards challenging activities?

### Section 2

What is an academic mindset?

### Section 3

How can persisting & persevering through productive struggle with a challenge help build academic mindset?

### Section 4

Analyzing how teachers can foster academic mindset development

### Section 5

Designing a challenging activity that integrates academic mindset development



## Core Activity

Design a challenging deeper learning activity that integrates support for academic mindset development as students persist/persevere through some kind of productive struggle. Candidates complete this during Section 5.

## Key terms and concepts explored within this module:



Academic mindset



Productive struggle



Persistence



Deeper learning challenges



Perseverance

## Overview Table of this Module.

This table identifies performance outcomes, resources and candidate products for each section of the module. The resources referenced below are all accessible within Canvas.

# MODULE SECTION 1

## Section 1: What is your mindset toward tackling challenging activities?

### Learning Goals

1. Experience a challenging deeper learning activity
2. Reflect on your personal approach to engaging in the activity and implications for P-12 teaching & learning



**Estimated Time:** ~1 hour, 15 min

### Resources



Design Approach Cards  
(PDF handout)



Solution-Oriented Prototyping  
Worksheet (fillable PDF form)

### Candidate Products

- Prototype of solution to a challenging problem
- Responses to reflection questions

## Considerations for Implementation by Subsection

**Section 1A** Includes a brief instructional slide video (**4 mins.**) that introduces candidates to the module. You may want to point out to candidates that transcripts have been provided for all instructional videos in the module, and candidates can choose to turn on captions within the video player settings. They can also keep track of where they are in the module by marking each section as done in Canvas before moving onto the next one.

### Section 1B Collaborative Activity (45 mins)

- Includes a series of directional videos that walk candidates through the steps of the activity. Candidates will need to partner up at the start.
- This activity is purposely somewhat ambiguous and open to candidate interpretation/choice about which design approaches to take to address a challenging question. The activity has been modified to allow them to choose their own education-related challenge or question to investigate and come up with a potential solution. If you prefer to revise the challenging question, you could consider making it more specific to a particular aspect of the field of education (e.g., connected to the needs of students, a P-12 learning environment, or a social issue like food insecurity). However, the provided structure was

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intended to give candidates some degree of choice about what to focus on, while still pushing them to think about that topic more deeply.

- This is a rapid design activity that should take ~45 minutes total - you will need to keep candidates moving along quickly.
  - Candidates will need to reference the “Design Approach Cards” (PDF - Step 1) and “Solution-Oriented Prototyping Worksheet” (PDF fillable form - Step 2) resources.
  - Candidates will work together to create a basic prototype as a concrete representation of their solution that can be shared with others. They can use very basic household or craft materials (e.g., cardboard) or create a digital representation or some other format of sharing.
  - Consider how your candidates will collaborate to complete this activity (e.g., within a virtual platform or in your brick-and-mortar classroom) and any additional guidance needed.
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### **Section 1C Reflection Opportunity (15-30 mins)**



- Includes directions to walk candidates through the final step of the activity (Step 3).
  - Informal whole group discussion questions have been provided to help guide conversation as candidates share their solutions and debrief the activity.
  - Individual reflection questions have also been provided for candidates to consider their personal approach to tackling this challenging activity and make connections to implications for P-12 teaching & learning - this is a key piece!
  - Links are provided in Canvas to where candidates can submit their responses to reflection questions directly within the platform; determine if you would like them to use those built-in features or submit their responses elsewhere.
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**Section 1** None.  
Optional  
Activities

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**Section 1** This activity was adapted from the Stanford d.school. If you would like to look at more detailed facilitator guidelines from the original activity, which was framed around Supplemental Materials investigating the general issue of too much plastic waste, they are available [here](#).

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## **MODULE SECTION 2**

### **Section 2: What is an academic mindset?**

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#### **Learning Goals**

1. Describe what it means to develop an academic mindset
2. Explain why supporting students’ academic mindset development is an important part of fostering deeper learning.



**Estimated Time:** ~1 hour 15 mins to 1 hour 30 mins

#### **Resources**

#### **Candidate Products**




Selected readings  
(PDFs + links)

Responses to “Quick Check” questions about readings (individual, plus optional extension to share further)

## Considerations for Implementation by Subsection

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**Section 2A** (10 mins)  **Includes an instructional slide video** that provides an overview of the concept of academic mindset, what it means to have one, and what it looks like when students apply academic mindsets in the classroom during challenging deeper learning activities.

**At the end of the section**, candidates are asked to pause to consider a “think about it” question that connects back to their experience in Section 1 with the challenging design activity, and the role of mindset in completing the activity

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**Section 2B** (45-60 mins) **Provides PDF links** to four selected readings that further illustrate what is meant by the key terms within this module - academic mindsets, persistence, & perseverance and connect to issues of equity in building a supportive learning environment. These brief readings include a teacher blog post, a conceptual overview, and a research-based article that makes connections to practice, as well as a set of guiding principles from learning and development scholars. They are intended to help candidates deepen their understanding of these foundational ideas

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**Section 2C** (15 mins) **Quick Check Assignment**

- Asks candidates to respond to a set of provided questions about the selected readings, in order to process and make sense of what they’ve learned
- A link is provided in Canvas to where candidates can submit their responses to the questions directly within the platform; determine if you would like them to use this built-in feature or submit their responses elsewhere

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**Section 2** Optional Activities  
At the end of Section 2.3, an optional extension activity is suggested that gives candidates the opportunity to select one of their responses to the Quick Check of the readings and use their creativity to determine how to share it with their peers. This is meant to be a brief snippet of information shared via social media, video, or whatever format they choose. There is a link provided if you are working within your own course shell and you want them to submit in a Flipgrid format.

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**Section 2** Supplemental Materials  
There are a number of additional, optional readings that may be of interest to you and your candidates if you wish to spend more time digging into foundational concepts related to academic mindset, persistence, and perseverance:

- [Deeper Learning Defined](#) (introduced earlier as general reference; could focus on academic mindset section)
- [A Mind at Work: Maximizing the Relationship Between Mindset and Student Success](#) (geared toward college students but good general definitions)
- [Teaching Perseverance? Try Interactive Modeling](#)
- [Persistence](#) (basic definitional info)
- [Debate Arises over Teaching "Growth Mindsets" to Motivate Students](#) (balanced view towards Dweck’s work)
- [Encouraging Persistence in Math](#)

- [Growth Mindset](#) (in context of math learning - resources from Jo Boaler)
- [Helping Students Develop Perseverance](#) (Science-specific but good general perspective towards perseverance vs. grit)
- [Teaching Adolescents to Become Learners](#) (full CCSR article cited within instructional slide video that explores non-cognitive factors in academic success)
- [Four Ways Schools Can Support the Whole Child](#) (more holistic picture that ties to aspects of persistence & perseverance to supporting the whole child in deeper learning)
- [Webinar: Integrating Social, Emotional, and Academic Learning: Lessons for Educators and School Leaders](#) (includes a case example/report & video resources)
- [How One Elementary School Integrates Social-Emotional Skills in the Classroom](#) (focus is on persisting through collaborative problem-solving)
- [Powerful Learning is Collaborative and Connected](#)

## MODULE SECTION 3

**Section 3:** How can persisting & persevering through productive struggle with a challenge help build academic mindset?

### Learning Goals

1. Describe why engaging students in productive struggle with a challenge is valuable to academic mindset development
2. Identify skills, strategies, and supports that help students persist & persevere through productive struggle



**Estimated Time:** ~50 minutes

### Resources

No resources are required except for the provided reflection questions

### Candidate Products

Reflections about case example video (from group discussion & individual reflection)


### Considerations for Implementation by Subsection

**Section 3A** (10 mins) Includes an instructional slide video that illustrates how productive struggle with challenging activities can be valuable to mindset development.



After a pause to consider a “think about it” question, candidates are prompted to watch a video that further exemplifies the importance of struggle to the process of building content understanding and fostering deeper learning within the classroom. The video partly focuses on math instruction but is broadly applicable to all content areas. Note that you can always have candidates pause any of the videos in order to further discuss or explain specific content – there is also a timestamp noted to focus on, if you wish to only have them view the key portions.

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**Section 3B** (10 mins)  The next brief instructional slide video focuses on what makes a struggle productive - and common barriers that can get in the way. This builds to identifying the specific skills, strategies and supports that help students persist & persevere through productive struggle.

- Examples are provided from both the teacher and student perspective. The emphasis is on how teachers can intentionally support student mindset development and help them develop the skills/strategies necessary to navigate challenging activities

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**Section 3C Case Example**

(10-15 mins)



- Candidates will be asked to apply what they have learned so far to examining a case example video of productive struggle within the classroom. There is a brief instructional slide video to frame this activity.
- There are two main case example options available. The content in each one is relatively generalizable and understandable, and will serve the purpose of allowing candidates to identify what the students and the teacher are doing to support learning from productive struggle, as part of academic mindset development. No advanced scientific knowledge is required!
- The **first example option** is from a middle school science class within part of the Ambitious Science series, and features a collaborative physics discussion and trial and error process. It is directly embedded within the module. The full set of video segments are long; please note the time stamps that ask candidates to focus on specific smaller portions.
- The **second example option** is from a high school physics class. It is from the ATLAS video library (#2569), which is a secure video collection with specific sharing restrictions.
  - While you do not need an ATLAS membership to access the video within this module, you will have to follow the steps in the Technical Guide to Using Canvas (Mindset supplement) to integrate it for your candidates to view within your own course shell, if you are not using SCALE's view only version. Unfortunately, the integration will not carry over from the "original" course shell provided by SCALE - but we appreciate your understanding that this extra step helps keep the video secure!
  - If your candidates have any trouble viewing it after you have integrated it, you may want to make sure that they have not blocked third-party cookies on their computer; the Chrome or Firefox browsers also work better than Safari.
  - An alternative ATLAS option is suggested (video #620) within the technical directions, in case it is a better fit for your candidates. It features 5th graders using both science and math skills to investigate an earthworm ecosystem.
- **If you would rather use a different example that bypasses ATLAS and shows younger students**, this additional alternative video from an elementary class in Italy is a good example of persisting through trial and error with an egg drop activity! Feel free to have your candidates examine this example instead if it works better for you: [https://youtu.be/Lf\\_a9-nXwuY](https://youtu.be/Lf_a9-nXwuY); for more information about the activity in the video, go here: <http://languages.dk/clil4u/index.html#trial>.



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**Section 3D Reflection Opportunity**

(20 mins)



- Candidates are prompted to discuss the video they watched in small groups, and then summarize their thinking through individual reflection questions. These questions ask candidates to provide examples of the extent to which the students are able to persist through productive struggle, and how the teacher helps support that process.
- A link is provided in Canvas to where candidates can submit their responses to the questions directly within the platform; determine if you would like them to use this built-in feature or submit their responses elsewhere.

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**Section 3** None

Optional  
Activities

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**Section 3** None (but see above for alternative video case example options)

Supplemental  
Materials

## MODULE SECTION 4

### Section 4: Analyzing how teachers can foster academic mindset development

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**Learning Goals**

1. Describe ways that teachers can intentionally provide opportunities for students to develop their academic mindset
2. Analyze case examples to identify teaching practices that help students build an academic mindset of persistence and perseverance during productive struggle.



**Estimated Time:** ~1 hour

**Resources**

Case Analysis Form  
(PDFs + links)

**Candidate Products**

- Option of sharing responses to “quick check” question
- Completed case analysis & reflection questions

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**Considerations for Implementation by Subsection**

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**Section 4A** Includes an instructional slide video that describes in more detail how teachers can

(15 mins)



support mindset development throughout the cycle of teaching - at the planning, instruction, and feedback stage. There are concrete examples of different ways teachers can help build students’ mindset towards persisting and persevering with

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challenging activities at each stage. The video is broken up into five mini-segments of just a few minutes each.

**This framing information is designed to prepare candidates for the case example analysis activity** that will follow, so they have some idea of the types of teaching practices to look out for.

**At the end of the slide video segments**, candidates are asked to pause and consider how teachers can support students during the process of engaging them in productive struggle - making connections to what they have just learned. See below under “Section 4 Optional Activities” for an optional extension activity that involves collaborating with their peers to share their thinking.

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### **Section 4B Case Example Analysis Activity**

(30-45 mins)



- **This sub-section begins with a brief instructional slide video** that provides directions for completing a deeper analysis of at least one of the provided case examples.
  - **Candidates will have the option of choosing from one of seven provided case examples** embedded within Canvas that span different subject areas and grade levels. Five of the options are in video format; two are written narratives. You can decide if you will let your candidates choose which option to analyze and if they should choose one or select two or more to compare. (Alternatively, they could compare their analysis with a peer who chose a different option than they did.)
  - **If you are teaching early childhood/lower elementary candidates** and would like to consider a different example from that grade span, this write-up of the [Bank Street Restaurant](#) unit may be a useful alternative option to the cases referenced above.
  - **Candidates will use the “Case Analysis Form”** (PDF fillable form) resource to guide them through this activity. The second page of the form includes follow-up questions that you may wish to use to guide further discussion/sharing and reflection.
  - **A link is provided in Canvas** to where candidates can submit their completed Case Analysis Form & responses to the questions directly within the platform; determine if you would like them to use this built-in feature or submit their responses elsewhere.
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### **Section 4**

Optional  
Activities



At the end of Section 4.1, an optional extension activity is suggested that gives students the opportunity to collaborate together to share one of their responses to the Quick Check question (or a combination of their responses) and use their creativity to determine how to share it with their peers as a “teaching tip”. This is meant to be a brief snippet of information shared via social media, video, an infographic, or whatever format they feel will be most effective for sharing ways that teachers can support students.

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**Section 4**  
Supplemental  
Materials

None but see above for alternative case example option

## MODULE SECTION 5

### Section 5: Designing a challenging activity that integrates academic mindset development

#### Learning Goals

1. Design a challenging deeper learning activity that supports academic mindset development as students persist & persevere through productive struggle
2. Reflect on peer feedback about the activity and how you might refine it for use within a P-12 classroom.



**Estimated Time:** ~1 hour, 45 minutes

#### Resources



Activity Design Form and sample mock version of form (fillable PDF form)



Peer Feedback Form (fillable PDF form)

#### Candidate Products

- Completed activity design
- Reflections on peer feedback about design

#### Considerations for Implementation by Subsection

**Section 5A** (5 mins) **Includes an instructional slide video** that prepares candidates to design a challenging deeper learning activity that incorporates attention to mindset development. Candidates will be reminded of key concepts from earlier sections.



#### Section 5B Core Activity – Design Activity

(45 - 60 mins)



- **This sub-section begins with a brief instructional slide video** that provides additional directions for the next steps in designing a challenging learning activity that intentionally builds academic mindset - by engaging students in persisting/persevering with some kind of productive struggle.
- **Candidates will use the provided Activity Design Form** (fillable PDF form) to plan their activity, as they determine what they want students to learn, and how they can incorporate mindset development into that learning.
- **A mock Sample Activity Design Form is also provided** for candidates to reference. See below for suggestions for an optional extension activity that examines this example version more closely before candidates move on to designing their own activity - you can decide if this is needed.
- **A link is provided in Canvas** to where candidates can submit their completed Activity Design Form & responses to the subsequent reflection questions directly within the platform; determine if you would like them to use this built-in feature or submit their responses elsewhere.

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**Section 5C Feedback / Reflection Opportunity**

(45 mins)



**Candidates will use the provided Peer Feedback Form** (fillable PDF form) as they share their completed activity with their peers, receive input, and then reflect on that feedback in order to inform future potential use within a P-12 classroom.

**A link is provided in Canvas** to where candidates can submit their completed Peer Feedback Form & responses to the subsequent reflection questions directly within the platform; determine if you would like them to use this built-in feature or submit their responses elsewhere.

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**Section 5**

Optional  
Activities

**Before beginning to design their own activity** using the Activity Design Form in Section 5.2, you may want to have candidates more closely examine the sample version of the form and analyze the extent to which the mock activity supported academic mindset development. As an FYI, this mock example was created based on the Option 1 Case Example Video from module Section 4.2

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**Section 5**

Supplemental  
Materials

None