

# Embedding Instructional Strategies to Support Self- Directed Learning in Online Course Design

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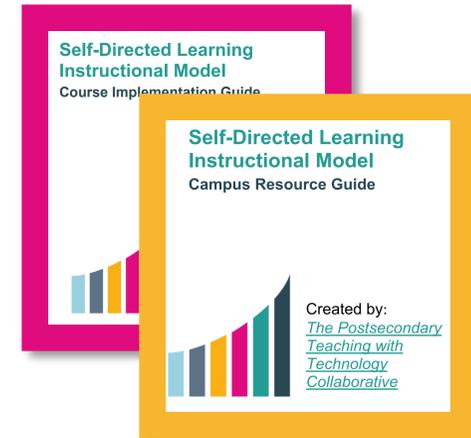
# Today we will:



**Introduce the Collaborative & SDL framework**



**Present the SDL Instructional Model and initial research findings**



**Share two guides to support implementation of the Model**

# What is the Collaborative?



An Institute of Education Sciences (IES)-funded research and capacity-building center that aims to study and improve how faculty **teach** and use **technology** to help students apply and strengthen **self-directed learning** in online STEM courses.

**SRI Education**<sup>™</sup>  
A DIVISION OF SRI INTERNATIONAL

**CCRC** COMMUNITY COLLEGE  
RESEARCH CENTER  
Teachers College, Columbia University

# Why focus on self-directed learning (SDL) in online courses?

# Online learning challenges



Student outcomes are generally worse in online courses and degree programs than comparable face-to-face ones



Less engagement and interaction in online environments



Key factors: Greater demands on students' self-directed learning capacities; need for belonging and community

# Students face particular challenges in STEM learning



## Environmental factors

Individual sink-or-swim culture

Content-heavy courses

Unclear personal relevance

Mismatched expectations about time commitment



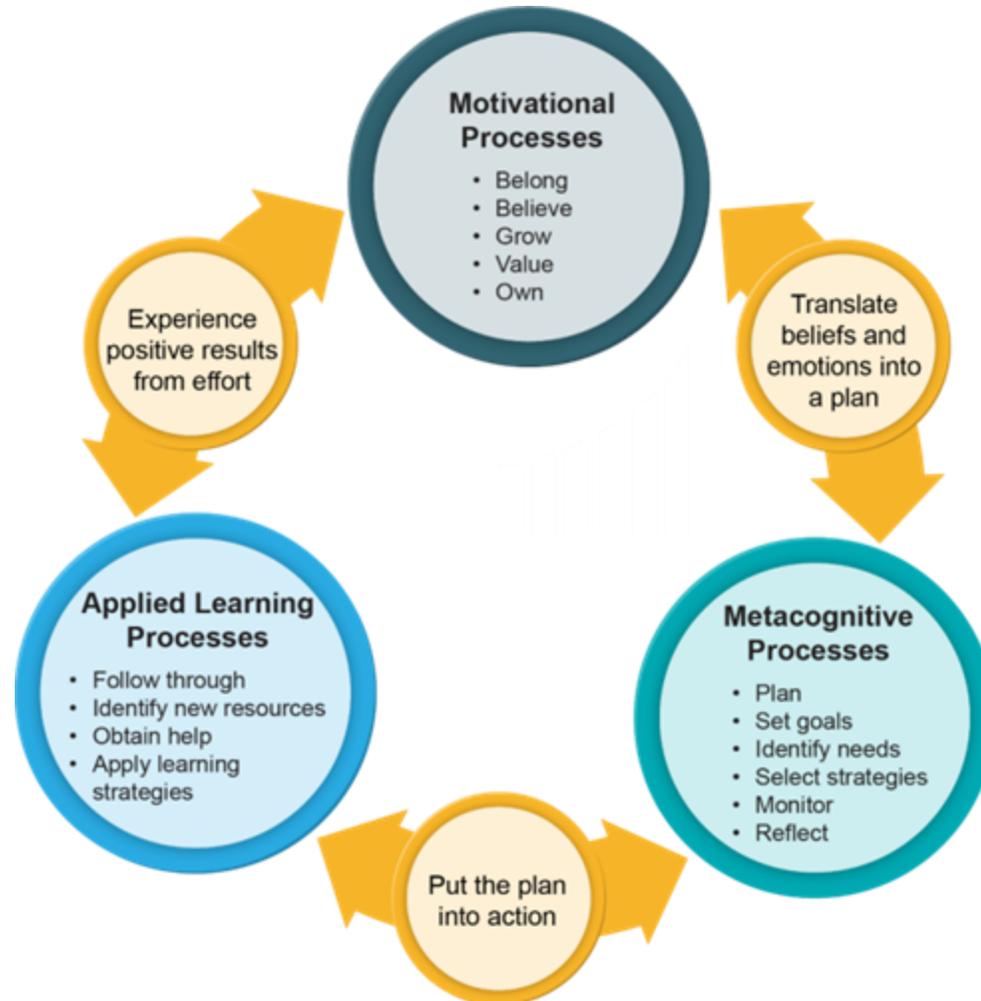
## Psychosocial factors

Belonging uncertainty

Stereotype threat

Feelings of isolation

# Framework for Self-directed Learning (SDL)



Check out the Collaborative report, Teaching and Designing Online STEM Courses to Support Self-Directed Learning Skills, to learn more!



# Reflection



What online learning challenges do your students experience that could benefit from SDL skill support?



# Self-Directed Learning (SDL) Instructional Model

# SDL Instructional Model



*Three evidence-based strategies to help college students manage their online learning better:*



Use technology to support student-peer interaction and networking (**SPIN**) and promote help-seeking

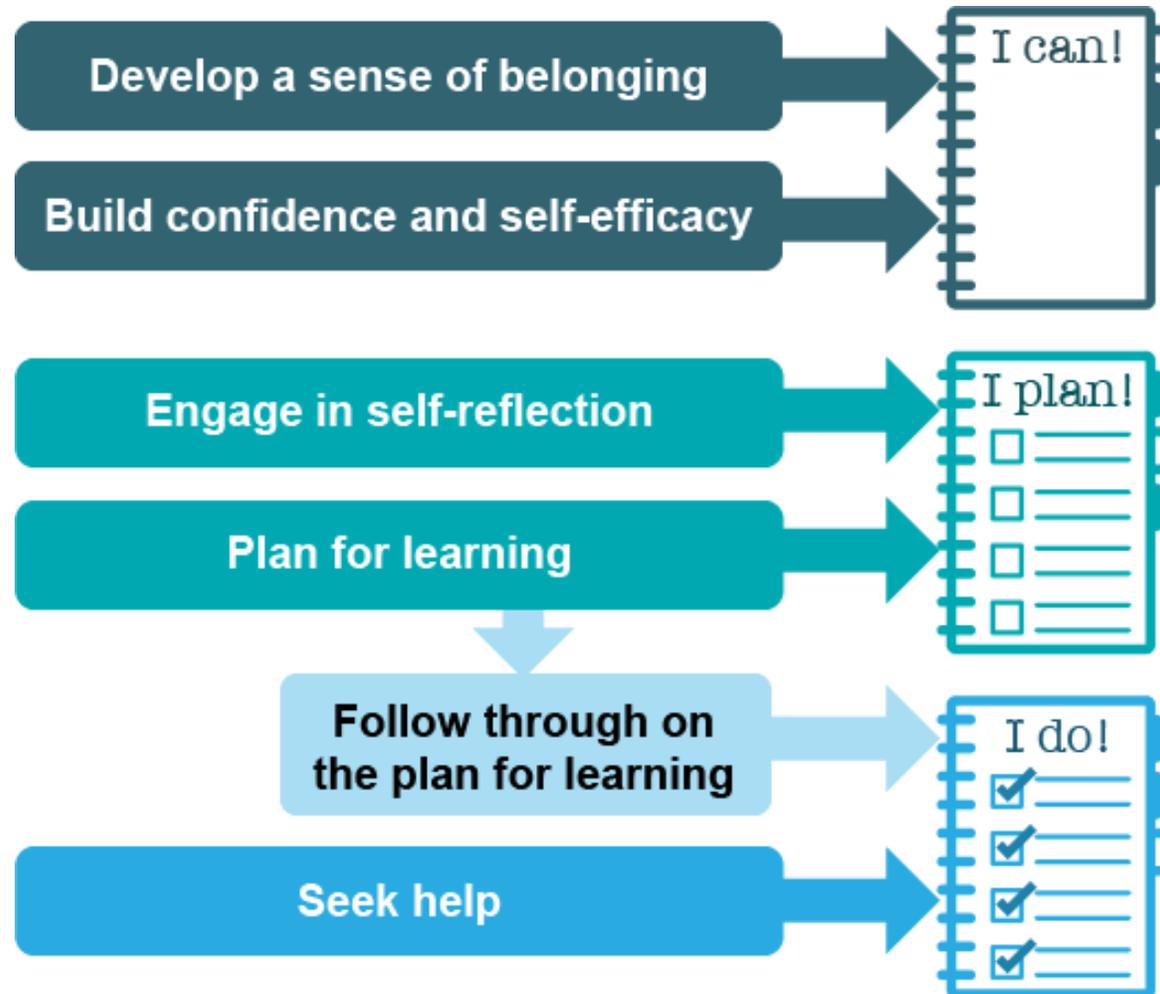


Assign **SDL videos** to support sense of belonging, planning for learning, confidence, and self-efficacy through a growth mindset



Set up **SDL prompts** focused on help-seeking, task-planning, and reflection

# Targets five student skills



# Learning theories underpinning the SDL strategies



## Microlearning

- Short learning activities with quick feedback
- Often offered on digital platforms



Primes and reminds students to apply skills within the course

## Adult learning

- Views learning as self-directed, experience-based, goal-oriented, relevant, and practical
- Collegial, collaborative relationship between student and instructor



Students are offered support to (a) build own learning management capacity and (b) develop confidence and knowledge to direct own learning — especially important when learning online

# An Instructional Model created in partnership



*Faculty, staff, researchers, and experts across our partner institutions, advisor groups, and partner organizations:*



Informed development and evaluation plans



Participated in formative pilot evaluations



Co-designed strategies and supplemental materials



Offered feedback throughout design and evaluation process

# Research activities



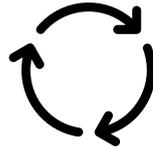
## *Multiple rounds of research, refinement, and testing, including:*



Foundational literature review and qualitative interviews to gather information about institutional practices and policies



Multiple rounds of rapid studies of SDL strategies in online courses



Feasibility study of all three SDL strategies together



Pilot study of effects of the full SDL Instructional Model

# Research study findings



- Students found the strategies useful and changed their learning strategies.
- Faculty found the strategies easy to integrate and gained helpful insights into students' learning needs.
- We found positive, statistically significant impacts on applied learning and metacognitive outcomes.
- Analyses indicate a 78% probability that the strategies had a positive effect on grades.

# SDL Instructional Model Guides



## Self-Directed Learning Instructional Model Course Implementation Guide



Created by:  
[The Postsecondary  
Teaching with  
Technology  
Collaborative](#)

## Self-Directed Learning Instructional Model Campus Resource Guide

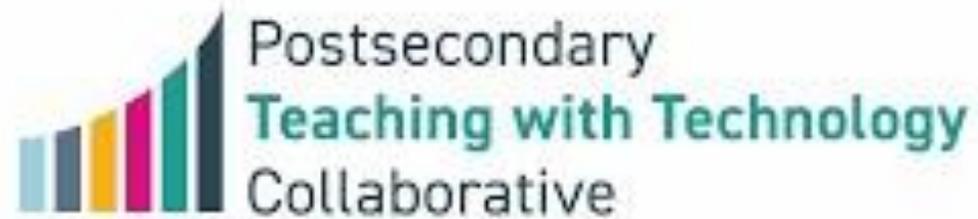


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# Faculty perspective: SDL strategies



Meghan McIntyre, Math Professor, Wake Technical Community College



# Course Implementation Guide: How to implement the strategies in a course

Self-Directed Learning  
Instructional Model  
Course Implementation Guide



Created by:  
[The Postsecondary  
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Technology  
Collaborative](#)

# Pacing guide



| Activity                    | SDL Strategy | Course Pacing   | Estimated Time for Students |
|-----------------------------|--------------|---|-----------------------------|
| Introductory Questionnaire  | SPIN         | First week  | 10 mins                     |
| Sense of Belonging          | Videos       | First week  | 20–30 mins                  |
| Time Management             | Videos       | Within first 2 weeks                                      | 20–30 mins                  |
| Pre-Assessment              | Prompts      | One week before first major assessment/assignment         | 10–20 mins                  |
| Growth Mindset              | Videos       | After first major assessment/assignment                   | 20–30 mins                  |
| Post-Assessment             | Prompts      | After first major assessment/assignment has been returned | 10–20 mins                  |
| Reflective Prompts          | Prompts      | Flexible: At least twice during the course                | 10–20 mins                  |
| Collaborative Activity      | SPIN         | Flexible: At least twice during the course                | Varies                      |
| Message to a Future Student | Prompts      | Final weeks of the course                                 | 20–30 mins                  |

# 3 strategies



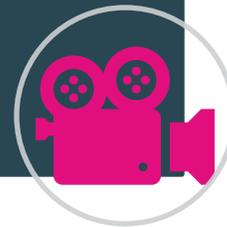
- Build students' sense of belonging in the course
- Promote help-seeking

SPIN



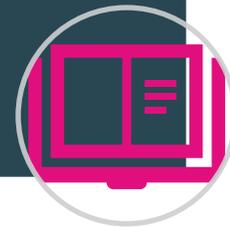
- Develop a sense of belonging
- Build confidence and self-efficacy
- Encourage planning for learning

SDL  
Videos



- Encourage planning for learning
- Engage in regular self-reflection
- Promote help-seeking

SDL  
Prompts



# SPIN Activities



## Introductory questionnaire

- Give students a non-content questionnaire about themselves
- Share aggregated results with the class

## Collaborative Activities

- Assign two collaborative activities
- Share a collaboration reflection tool
- Provide a summative review of the peer-work experiences or group activities

# Online Collaboration Challenges: Best Practices



- Incentivize participation
- Group students intentionally
- Explain the purpose of working in groups
- Support relationship-building
- Assign effective collaborative activities, with clear roles for each student
- Share best practices for team meetings
- Provide ongoing support

# SDL video series topics



Sense of  
belonging



Managing  
your learning  
time



Growth  
mindset

Ready-to-use SDL videos, discussion questions, and transcripts. Each video has a consistent format and provides reflection questions.

# SDL prompts



| SDL prompts  | Timing                              |
|--|-------------------------------------|
| <p><b>Reflective prompts</b> consist of a set of three questions that can be assigned at any time during the course.</p> <p><i>Excerpt: What assignments and other coursework do you need to complete this week for this class? Which concepts from this class do you feel you mastered this week?</i></p>   | Twice during course                 |
| <p>The <b>assessment wrapper</b> consists of a two-part activity that should be assigned a week before a major assignment (pre-assessment) and after the student has received their grade (post-assessment).</p> <p><i>Excerpt: (Pre) What challenges or barriers do you anticipate you might encounter preparing for this assessment and how might you overcome them? (Post) Did you stick to the plan you made for yourself?</i></p> | Once before and after an assignment |

# SDL prompts (continued)



| SDL prompts  | Timing                       |
|--|------------------------------|
| <p>The <b>message to a future student</b> invites students to reflect on their course performance and can be assigned as a written reflection or a video recording.</p> <p><i>Excerpt: What did you wish you knew going into the course? What did you learn about yourself as a learner?</i></p> | <p>Once at end of course</p> |

# Campus Resource Guide: How to support implementation of the SDL Instructional Model

Self-Directed Learning  
Instructional Model  
Campus Resource Guide



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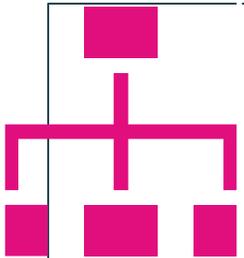
# Information for Leaders: Adopting the SDL Instructional Model



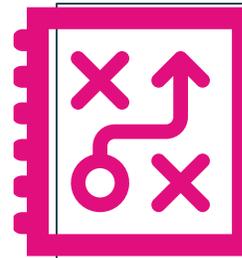
Connect the relevance of the Instructional Model to other institutional initiatives



Identify champions of the Instructional Model to support its adoption



Integrate the Instructional Model into existing professional development and deploy faculty support resources



Support strategic planning around how the Instructional Model can be implemented across disciplines and courses.

# Getting Started: A Getting Started Workshop



- A slide deck with content and detailed slide notes for either leading a Getting Started workshop or for self-instruction
- Additional resources:
  - Annotated agenda for the workshop
  - SDL Activity Implementation Plan



## Self-Directed Learning Instructional Model: Getting Started with SDL Strategies

*Created by the  
Postsecondary Teaching with  
Technology Collaborative*



# Going Deeper: Faculty Learning Community



- Series of meetings with a cohort of faculty implementing the Model
- Proposed schedule for 4, 90-minute meetings
  - Meeting 1: Digging Deeper into the Value of Self-Directed Learning
  - Meeting 2: Mapping Strategies to Course Content
  - Meeting 3: Designing High-Quality Collaborative Work in Online Courses
  - Meeting 4: Learning from Students and Refining Approaches



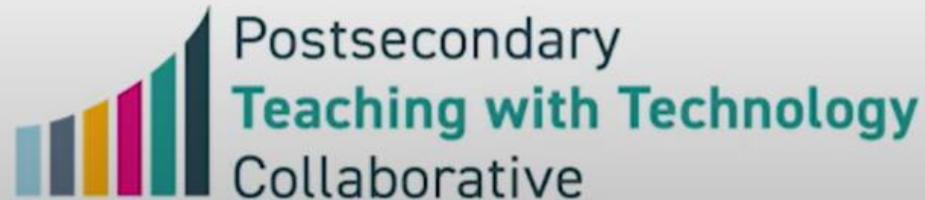
# Staying in Touch: Additional touchpoints



- Optional way to connect with faculty to check-in on implementation at recommended intervals throughout the course
- Topics include:
  - Asking if they need additional support to implement the SDL Instructional Model
  - Reminders on how and when to implement the strategies in alignment with the Pacing Guide
  - Links to additional resources



# How Students Experience **Self-Directed Learning Strategies in Online Courses**



# Thank you

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