

## Combined Teacher's Sense of Efficacy Scale (TSES) and ChatGPT Teacher's Sense of Efficacy Scale (Chat-T) Survey

### Introduction

This questionnaire is designed to help gain a better understanding of your level of comfort with the kinds of tasks that you would need to do when integrating Artificial Intelligence (AI) agents (such as ChatGPT) in teaching and learning activities. Indicate your opinion about each of the statements below.

Teacher Beliefs		How much can you do?								
		Nothing		Very Little		Some Influence		Quite a Bit		A Great Deal
1	How much can you do to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2	How much can you do to control disruptive behavior during collaborative learning activities?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	How much can you use AI agents (such as ChatGPT) to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4	How much can you gauge student comprehension of issues related to content generated using AI agents (such as ChatGPT)?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5	How much can you use AI agents (such as ChatGPT) to get through to the most difficult students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6	How well can you respond to difficult questions from your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7	How much can you do to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8	To what extent can you craft good collaborative learning activities for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9	How well can you provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10	How well can you respond to defiant students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

11	How much can you do to calm a student who is disruptive?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12	How much can you use AI agents (such as ChatGPT) to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
13	How much can you do to get students to follow classroom rules?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
14	How well can you implement alternative (technology-based) strategies using AI agents (such as ChatGPT) in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15	How much can you use a variety of technology-based assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
16	How much can you use AI agents (such as ChatGPT) to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
17	To what extent can you make your expectations clear about student behavior?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
18	How much can you gauge student comprehension of what you have taught?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
19	How much can you do to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
20	How much can you use a variety of assessment strategies?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
21	How well can you implement alternative strategies in your classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
22	How much can you assist families in helping their children do well in school?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
23	How well can you establish a classroom management system with each group of students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
24	How much can you do to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
25	How much can you do to help your students think critically?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
26	How much can you do to motivate students who show low interest in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
27	How well can you establish routines to keep activities running smoothly?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

28	How much can you do to help your students value learning?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
29	How much can you use AI agents (such as ChatGPT) to foster student creativity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
30	How much can you use AI agents (such as ChatGPT) to improve the understanding of a student who is failing?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
31	How much can you use technology to adjust your lessons to the proper level for individual students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
32	To what extent can you provide an alternative explanation or example when students are confused?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
33	How well can you keep a few problem students from ruining an entire lesson?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
34	How much can you do to get students to believe they can do well in school work?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
35	How much can you do to control disruptive behavior in the classroom?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
36	To what extent can you craft good questions for your students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
37	How well can you keep a few problem students from ruining an entire collaborative learning activity?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
38	How much can you use AI agents (such as ChatGPT) to provide appropriate challenges for very capable students?	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

**Directions for Scoring the combined Teacher’s Sense of Efficacy Scale (TSES) and ChatGPT Teacher’s Sense of Efficacy Scale (Chat-T)**  
(adapted from Tschannen-Moran, & Woolfolk Hoy, 2001)

**Factor analysis.**

It is important to conduct a factor analysis to determine how your participants respond to the questions. We have consistently found three moderately correlated factors: *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, and *Efficacy in Classroom Management*, but at times the make-up of the scales varies slightly.

**Subscale scores.**

To determine the *Efficacy in Student Engagement*, *Efficacy in Instructional Practices*, *Efficacy in Classroom Management*, *Efficacy in Student Engagement with AI Agents (such as ChatGPT)*, *Efficacy in Instructional Practices with AI Agents (such as ChatGPT)*, and *Efficacy in Classroom Management with AI Agents (such as ChatGPT)* subscale scores, we compute unweighted means of the items that load on each factor. Generally these groupings are:

**TSES.**

***Efficacy in Student Engagement:*** Items 1, 19, 22, 24, 25, 26, 28, 34

***Efficacy in Instructional Strategies:*** Items 6, 7, 9, 18, 20, 21, 32, 36

***Efficacy in Classroom Management:*** Items 10, 11, 13, 17, 23, 27, 33, 35

**Chat-T.**

***Efficacy in Student Engagement with AI Agents:*** Items 3, 5, 12, 16, 22, 29, 30, 34

***Efficacy in Instructional Strategies with AI Agents:*** Items 4, 6, 8, 14, 15, 21, 32, 38

***Efficacy in Classroom Management with Agents:*** Items 2, 10, 11, 13, 17, 23, 27, 37

**Reliabilities.**

In Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17, 783-805, the following were found:

	Mean	SD	alpha
<b>OSTSES</b>	7.1	.94	.94
<b><i>Engagement</i></b>	7.3	1.1	.87
<b><i>Instruction</i></b>	7.3	1.1	.91
<b><i>Management</i></b>	6.7	1.1	.90