

# A Systematic Review of Teachers' Roles and Social-Emotional Competence in K–12 AI Research

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# Overview

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# Background & Purpose

## The Challenge

- AI creates new opportunities for teaching and learning. (Döger & Göçen, 2025)
- AI integration introduces new pressures and demands, intensifying teacher stress and burden. (Delello et al., 2025; García-López & Trujillo-Liñán, 2025)

## The Gap

- Social Emotional Competence (SEC) shapes positive classroom climates, teacher-student relationships, and teacher well-being. (Jennings & Greenberg, 2009)
- Existing reviews give limited attention to how AI tools may support teachers' SEC.

## Contribution

- Analyze how K–12 AI research published between 2020 and 2025 conceptualizes teachers' roles and whether and how, it addresses support for teachers' SEC.

# Theoretical Framework 1

## Zhai (2024) · Teacher Roles with AI



### **Observer**

Learn AI through PD;  
no AI integration



### **Adopter**

Experiment with AI  
in classrooms



### **Collaborator**

Co-design curricula;  
professional reasoning



### **Innovator**

Create AI curricula,  
lead PLCs, advocate  
responsibly

# Theoretical Framework 2

## CASEL (2020) & Jennings & Greenberg (2009) · Social-Emotional Competence (SEC)



### **Self-Awareness**

Recognize emotions,  
identify strengths  
and limitations



### **Self-Management**

Regulate emotions,  
maintain effective  
teaching



### **Social Awareness**

Understand  
emotional expression,  
show empathy



### **Relationship Skills**

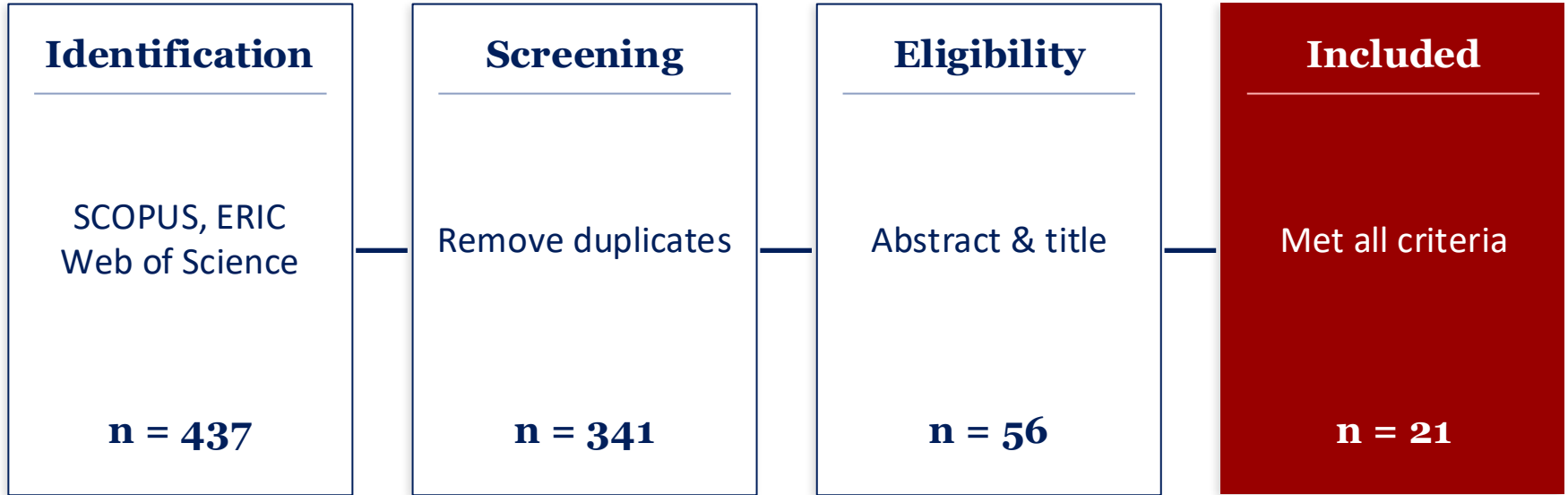
Clear communication,  
active listening,  
foster collaboration



### **Responsible Decision-Making**

Consider the  
consequences,  
take responsibilities

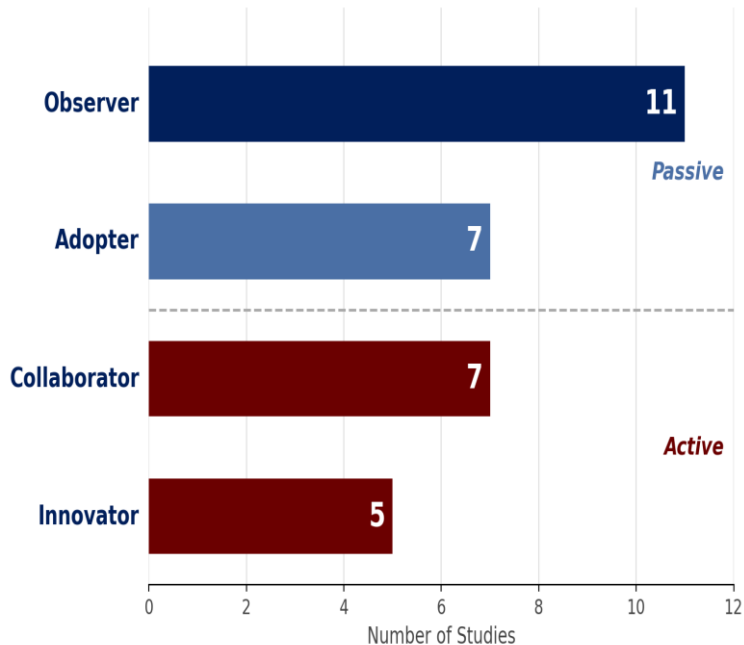
# Methodology



## Inclusion Criteria:

- ✓ U.S. context · English · Peer-reviewed articles or conference proceedings · 2020–2025
- ✓ Empirical studies · In-service K–12 teachers · Meaningful teacher–AI interaction

# Finding 1: Teacher Roles in K–12 AI Research



## Observer — 11 studies

Peripheral AI awareness; no classroom integration

## Adopter — 7 studies

Trials AI at researchers' direction; limited agency

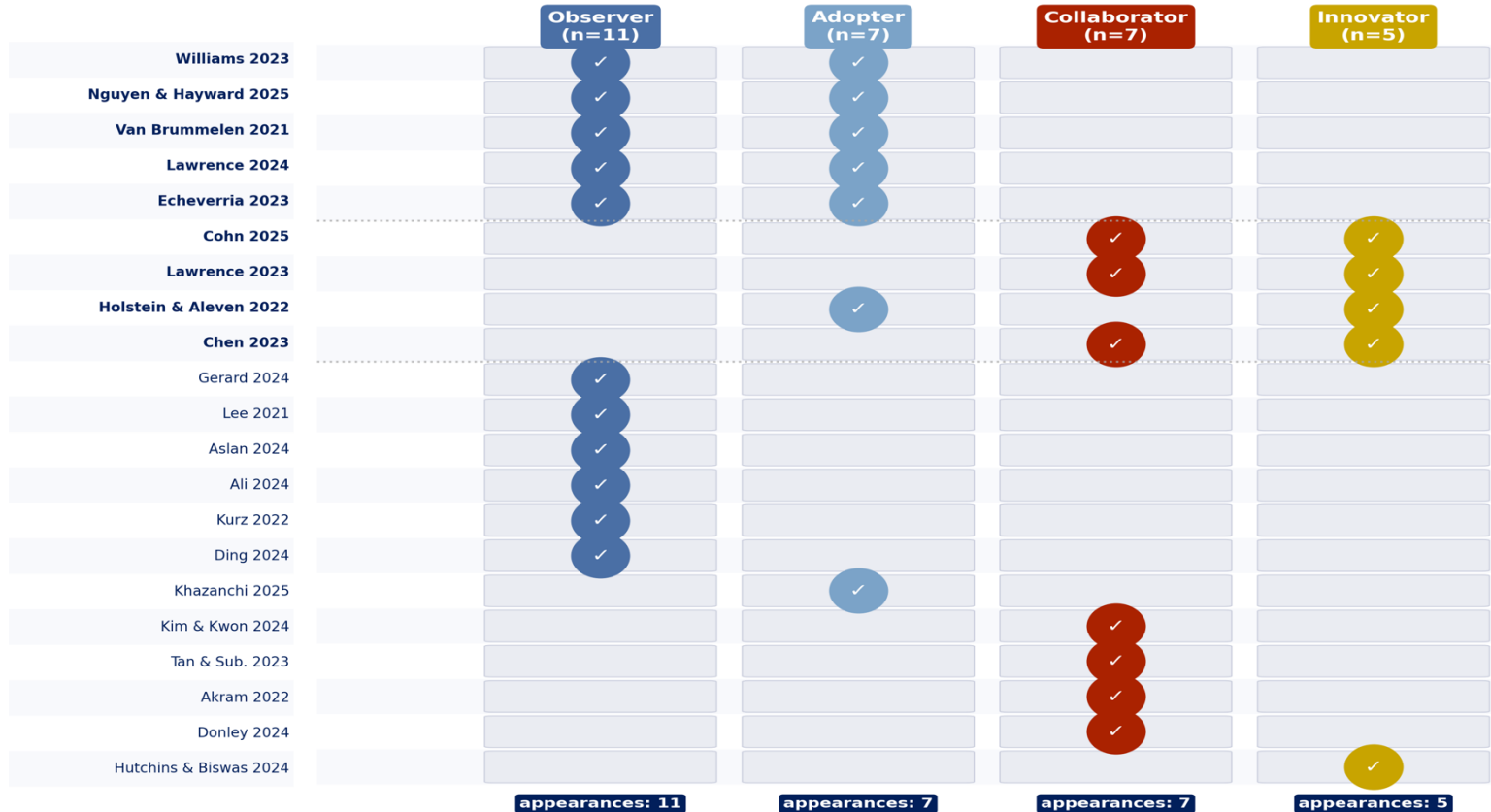
## Collaborator — 7 studies

Co-designs instruction; pedagogical reasoning

## Innovator — 5 studies

Co-creates AI curricula; leads PLCs and advocates responsibly

# Finding 1 (Detail): Role Distribution Across 21 Articles



## Finding 2: Extent of SEC Support in AI Tools

**54%**

(12 of 21 studies)

Offer NO explicit SEC support

### Social Awareness



### Responsible Decision-Making



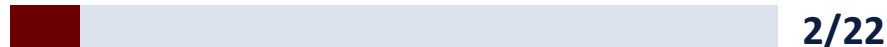
### Relationship Skills



### Self-Management



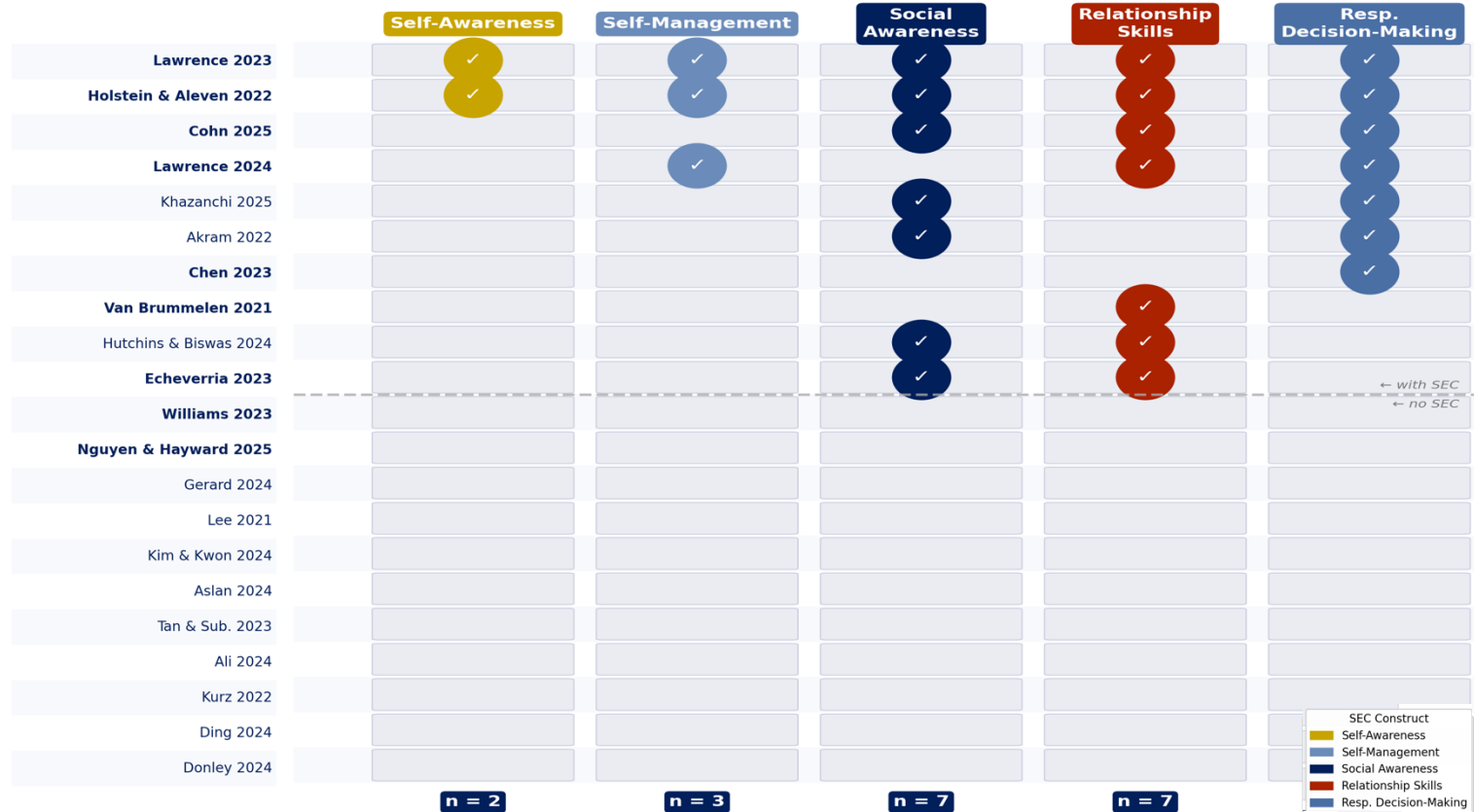
### Self-Awareness



### Key Patterns

- ▶ AI tools are designed to help teachers look outward toward students.
- ▶ Inward-facing competencies are absent from current AI design.

# Finding 2 (Detail): SEC Support by Article



Sorted by SEC count (desc.) · Bold = multi-role · Colored badge = role(s)

# Finding 3: Teacher Roles × SEC Integration

## PASSIVE ROLES

- ✗ Minimal to NO explicit SEC support built into tools
- ✗ Technically driven; lacking emotional and relational dimensions

## ACTIVE ROLES

- ✓ Greater tendency to incorporate Relationship Skills, Responsible Decision-Making, and Social Awareness
- ✓ More human-centered, contextually responsive AI implementations

*More active teacher roles are associated with greater SEC integration in AI tool design.*

# Finding 3 (Detail): Roles × SEC Integration by Article

ACTIVE ROLES (n=9)			Self-Awareness	Self-Management	Social Awareness	Relationship Skills	Resp. Decision-Making	
Inn	Col	Lawrence 2023	✓	✓	✓	✓	✓	6/9 with SEC
Inn	Ado	Holstein & Alevan 2022	✓	✓	✓	✓	✓	
Inn	Col	Cohn 2025			✓	✓	✓	
Col		Akram 2022			✓		✓	
Inn		Hutchins & Biswas 2024			✓	✓		
Col	Inn	Chen 2023					✓	
Col		Kim & Kwon 2024						
Col		Tan & Sub. 2023						
Col		Donley 2024						
PASSIVE ROLES (n=12)			2/9	2/9	5/9	4/9	5/9	4/12 with SEC
Obs	Ado	Lawrence 2024		✓		✓	✓	
Obs	Ado	Echeverria 2023			✓	✓		
Ado		Khazanchi 2025			✓		✓	
Obs	Ado	Van Brummelen 2021				✓		
Obs	Ado	Williams 2023						
Obs	Ado	Nguyen & Hayward 2025						
Obs		Gerard 2024						
Obs		Lee 2021						
Obs		Aslan 2024						
Obs		Alli 2024						
Obs		Kurz 2022						
Obs		Ding 2024						
			0/12	1/12	2/12	3/12	2/12	

Active = has Collaborator or Innovator · Passive = Observer or Adopter only · Bold = multi-role article

# Discussion & Implications

- **Teachers are often cast in passive roles, and SEC is largely overlooked.**
- **This dual oversight limits their agency and well-being in AI-enhanced classrooms.**
- **Reimagine AI integration to support emotional and professional needs.**

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