

**Figure A.1: The New Art and Science of Teaching Framework Overview**

<i>The New Art and Science of Teaching Framework Overview</i>				
Category	Design Areas— Teacher Actions	Desired Student Mental States and Processes	Design Questions	Elements
Feedback	<b>1. Providing and Communicating Clear Learning Goals</b>	Students understand the progression of knowledge they are expected to master and where they are along that progression.	How will I communicate clear learning goals that help students understand the progression of knowledge I expect them to master and where they are along that progression?	<b>1. Providing scales and rubrics</b> How will I design scales or rubrics? <b>2. Tracking student progress</b> How will I track progress? <b>3. Celebrating success</b> How will I celebrate success?
	<b>2. Using Assessments</b>	Students understand how test scores and grades relate to their status on the progression of knowledge they are expected to master.	How will I design and administer assessments that help students understand how their test scores and grades relate to their status on the progression of knowledge I expect them to master?	<b>4. Using informal assessments of the whole class</b> How will I informally assess the whole class? <b>5. Using formal assessments of individual students</b> How will I formally assess individual students?
Content	<b>3. Conducting Direct Instruction Lessons</b>	When content is new, students understand which parts are important and how the parts fit together.	When content is new, how will I design and deliver direct instruction lessons that help students understand which parts are important and how the parts fit together?	<b>6. Chunking content</b> How will I chunk the new content into short, digestible bites? <b>7. Processing content</b> How will I help students process the individual chunks and the content as a whole? <b>8. Recording and representing content</b> How will I help students record and represent their knowledge?
	<b>4. Conducting Practicing and Deepening Lessons</b>	After teachers present new content, students deepen their understanding and develop fluency in skills and processes.	After presenting content, how will I design and deliver lessons that help students deepen their understanding and develop fluency in skills and processes?	<b>9. Using structured practice sessions</b> How will I use structured practice? <b>10. Examining similarities and differences</b> How will I help students examine similarities and differences? <b>11. Examining errors in reasoning</b> How will I help students examine errors in reasoning?

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Content	<b>5. Conducting Knowledge Application Lessons</b>	After teachers present new content, students generate and defend claims through knowledge application tasks.	After presenting content, how will I design and deliver lessons that help students generate and defend claims through knowledge application?	<p><b>12. Engaging students in cognitively complex tasks</b> How will I engage students in cognitively complex tasks?</p> <p><b>13. Providing resources and guidance</b> How will I provide resources and guidance?</p> <p><b>14. Generating and defending claims</b> How will I help students generate and defend claims?</p>
	<b>6. Using Strategies That Appear in All Types of Lessons</b>	Students continually integrate new knowledge with old knowledge and revise their understanding accordingly.	Throughout all types of lessons, what strategies will I use to help students continually integrate new knowledge with old knowledge and revise their understanding accordingly?	<p><b>15. Previewing strategies</b> How will I help students preview content?</p> <p><b>16. Highlighting critical information</b> How will I highlight critical information?</p> <p><b>17. Reviewing content</b> How will I help students review content?</p> <p><b>18. Revising knowledge</b> How will I help students revise knowledge?</p> <p><b>19. Reflecting on learning</b> How will I help students reflect on their learning?</p> <p><b>20. Assigning purposeful homework</b> How will I use purposeful homework?</p> <p><b>21. Elaborating on information</b> How will I help students elaborate on information?</p> <p><b>22. Organizing students to interact</b> How will I organize students to interact?</p>
Context	<b>7. Using Engagement Strategies</b>	Students are paying attention, energized, intrigued, and inspired.	What engagement strategies will I use to help students pay attention, be energized, be intrigued, and be inspired?	<p><b>23. Noticing and reacting when students are not engaged</b> What will I do to notice and react when students are not engaged?</p> <p><b>24. Increasing response rates</b> What will I do to increase students' response rates?</p> <p><b>25. Using physical movement</b> What will I do to increase students' physical movements?</p> <p><b>26. Maintaining a lively pace</b> What will I do to maintain a lively pace?</p> <p><b>27. Demonstrating intensity and enthusiasm</b> What will I do to demonstrate intensity and enthusiasm?</p> <p><b>28. Presenting unusual information</b> What will I do to present unusual information?</p>

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Context	<b>7. Using Engagement Strategies</b>	Students are paying attention, energized, intrigued, and inspired.	What engagement strategies will I use to help students pay attention, be energized, be intrigued, and be inspired?	<p><b>29. Using friendly controversy</b> What will I do to engage students in friendly controversy?</p> <p><b>30. Using academic games</b> What will I do to engage students in academic games?</p> <p><b>31. Providing opportunities for students to talk about themselves</b> What will I do to provide opportunities for students to talk about themselves?</p> <p><b>32. Motivating and inspiring students</b> What will I do to motivate and inspire students?</p>
	<b>8. Implementing Rules and Procedures</b>	Students understand and follow rules and procedures.	What strategies will I use to help students understand and follow rules and procedures?	<p><b>33. Establishing rules and procedures</b> What will I do to establish rules and procedures?</p> <p><b>34. Organizing the physical layout of the classroom</b> What will I do to make the physical layout of the classroom most conducive to learning?</p> <p><b>35. Demonstrating withitness</b> What will I do to demonstrate withitness?</p> <p><b>36. Acknowledging adherence to rules and procedures</b> What will I do to acknowledge adherence to rules and procedures?</p> <p><b>37. Acknowledging lack of adherence to rules and procedures</b> What will I do to acknowledge lack of adherence to rules and procedures?</p>
	<b>9. Building Relationships</b>	Students feel welcome, accepted, and valued.	What strategies will I use to help students feel welcome, accepted, and valued?	<p><b>38. Using verbal and nonverbal behaviors that indicate affection for students</b> How will I use verbal and nonverbal behaviors that indicate affection for students?</p> <p><b>39. Understanding students' backgrounds and interests</b> How will I demonstrate that I understand students' backgrounds and interests?</p> <p><b>40. Displaying objectivity and control</b> How will I demonstrate objectivity and control?</p>
	<b>10. Communicating High Expectations</b>	Typically reluctant students feel valued and do not hesitate to interact with the teacher or their peers.	What strategies will I use to help typically reluctant students feel valued and comfortable interacting with their peers or me?	<p><b>41. Demonstrating value and respect for reluctant learners</b> How will I demonstrate value and respect for reluctant learners?</p> <p><b>42. Asking in-depth questions of reluctant learners</b> How will I ask in-depth questions of reluctant learners?</p> <p><b>43. Probing incorrect answers with reluctant learners</b> How will I probe incorrect answers with reluctant learners?</p>