

# USING ABCD ANSWER CARDS IN THE CLASSROOM QUICK REFERENCE CHECKLIST

Based on Prather, 2011; For more information see the video of Dr. Larry Lesser

## PREPARATION OF MATERIALS PRIOR TO ENTERING THE CLASSROOM

<p><b>Prepare the following in advance of the class session.</b></p>	<p><b>Mini-lecture</b> on a single concept. Explain the concept clearly and give several examples that connect with the students' lives or current events.</p> <p><b>Multiple Choice question(s)</b> that allow you to assess students' understanding of the concept. Incorporate them in your mini-lecture PPT presentation following the explanation of the concept. Questions should ask students to make a specific choice, See elsewhere on writing good multiple choice questions.</p> <p><b>Print ABCD answer cards</b> in color. Black and white will not work. See PDF file.</p> <p><b>Decide on a signal to get students' attention.</b> Tibetan tingsha bells work very well, but calling out "PAUSE!" loudly works also as long as you can be heard by a large group of talking students.</p> <p><b>Practice showing how they use the answer card and when:</b> 1) You show the question; 2) They fold the card to their selected answer; 3) On the count of 3 they lift the card with two hands underneath their chin, not overhead. This is important to maintain anonymity.</p>	<input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>
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## PRACTICING THE SEQUENCE OF IMPLEMENTATION TO ENSURE SUCCESS (PRACTICE THIS IN FRONT OF YOUR COMPUTER OUT LOUD)

<p>"I have a question for you."</p>	<p><b>Display the question</b> on the screen.</p>	<input type="checkbox"/>
<p><b>Turn to the screen and your back to the students</b></p>	<p><b>Read the question</b> semi aloud while looking directly at the screen. Ignore the students while you do this. Point to the words to slow yourself down. After you have read the text on the screen...</p>	<input type="checkbox"/>
<p><b>Turn to the students and ask...</b></p>	<p><b>"Do you need more time?"</b> If some indicate they do, give them another 10 seconds or so, while you again look at the screen.</p>	<input type="checkbox"/>
<p><b>Turn to the students and tell them...</b></p>	<p><b>"On three, show me your answers to this question....1...2...3."</b> If there are a few who don't raise them on count 3, make the class do it again so that all do raise their card simultaneously on 3. Several things can happen...</p>	<input type="checkbox"/>
<p><b>80+% of the students have the correct answer.</b></p>	<p><b>Move on.</b> The color pattern shows you instantly the approximate percentage of the class that answered correctly. Ask the students who selected the correct answer why that choice is the correct answer. Let one or two explain it. Tell the ones who did not select the correct answer to speak with their class-mates or come see you or your TA during office hours, because you're moving on as the great majority understands the concept.</p>	<input type="checkbox"/>

## STUDENTS STILL DON'T UNDERSTAND THE CONCEPT OR THE QUESTION

<p><b>Students select a variety of answers.</b></p>	<p>Tell the students <b>"That is quite a rainbow of colors. We need to have a discussion. Turn to your neighbor and convince your neighbor that your answer is correct. You may have the same answer but your reasons may be different. You have 30 sec to convince your neighbor. 30..29..28...!"</b> When 30 seconds have expired tell them <u>by saying "TIME!" or ringing the bell.--</u></p>	<input type="checkbox"/>
<p><b>"PAUSE!" (or ring the bell)...</b></p>	<p>Tell the students <b>"Now that you have discussed the options, you may have changed your answer so let's answer this question again. Please show me your answer on three ....1...2...3!"</b></p> <p>If it seems that 80% or more now have it correct, compliment them and tell them that you're moving on. Those who still don't get it need to come see you after class or during office hours. Or...</p>	<input type="checkbox"/>
<p><b>There is still a rainbow of colors</b></p>	<p>If you still see a rainbow of colors, there may be several reasons. The question may confuse them or they really don't understand the concept. Now it's time to step back and explain the question and answer alternatives step by step. The best approach is to...</p>	<input type="checkbox"/>
<p>Let the students explain why they selected their choice.</p>	<p><b>Ask the students who selected A why they selected that choice.</b> Same for B, C etc. Do NOT say "correct" after the ones who picked the correct answer give their explanation, because that ends the thinking process. Rather, after all choices have been explained by the students, <b>model your own thinking process</b> by explaining why the incorrect choices are incorrect and the correct one is correct. Ask them to take notes.</p> <p>To assess whether their understanding has improved you can then present them with the next questions and repeat the process.</p>	<input type="checkbox"/>

