

CER Instructional Strategy: Claim Evidence Reasoning Strategy Across Content Areas

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Essential Question(s)

How can the Claim-Evidence-Reasoning (CER) instructional strategy be effectively modified and integrated into any content area to better prepare students for college entrance exams?

Summary

This professional development session introduces educators to the Claim-Evidence-Reasoning (CER) instructional strategy. Participants explore how to apply CER across different content areas and understand its role in preparing students for college and career readiness exams. Through hands-on activities, group discussions, and reflective exercises, educators develop practical ways to integrate CER into their teaching practices to enhance students' critical thinking and argumentative skills.

Learning Goals

- Understand the parts of the CER instructional strategy.
- Explain how CER supports essential skills for success in college and career readiness exams, such as the ACT and SAT.
- Apply the CER strategy to a lesson in their specific content area.

Attachments

- CER - blank.docx
- CER - blank.pdf
- CER Social Studies Handout - CER Across Content Areas.docx
- CER Social Studies Handout - CER Across Content Areas.pdf
- CER Social Studies Handout Key - CER Across Content Areas docx.docx
- CER Social Studies Handout Key - CER Across Content Areas docx.pdf
- CER Social Studies Reading - CER Across Content Areas docx - Copy.docx
- CER Social Studies Reading - CER Across Content Areas docx - Copy.pdf
- ELA Slides-CER Across Content Areas pptx.pptx
- Lesson Note Catcher - CER Across Content Areas docx.docx
- Lesson Note Catcher - CER Across Content Areas docx.pdf
- Math CER Handout-CER Across Content Areas docx.docx
- Math CER Handout-CER Across Content Areas docx.pdf
- Math Slides-CER Across Content Areas.pptx
- Presentation Slides-CER Across Content Areas pptx..pptx
- Science CER & Rubric-CER Across Content Areas.docx
- Science CER & Rubric-CER Across Content Areas.pdf
- Science CER Climate Graphs-CER Across Contents.pdf
- Science Slides-CER Across Content Areas pptx.pptx
- Social Studies Slides-CER Across Content Areas.pptx

Materials

- Presentation Slides: CER Across Content Areas
- Lesson Note Catcher Handout: CER Across Contents (1 per participant)
- Math Slides
- Math: Circles of various sizes, string, scissors, rulers: CER Across Contents
- Science Slides
- Science: Climate graphs handouts, CER & Rubric handout
- Social Studies Slides
- Social Studies: Tinker v. Des Moines handout, CER Tinker v. Des Moines handout, CER Tinker v. Des Moines sample CER handout
- ELA Slides
- Digital CER Template (1 per participant)
- Sample ACT questions (5 questions in each content area, copied for each teacher of that content area)

5 minutes

Engage

Use the attached Presentation Slides - CER Across Content Areas and display **slide 2**. Introduce yourself and welcome participants to the session.

Display **slide 3**. Review the Fist to Five strategy with participants. Ask participants to show on their hand how familiar they are with the CER instructional strategy. Use a closed fist for not at all familiar to a five open fingers for extremely familiar.

Display **slide 4** and review the essential question: How can the Claim-Evidence-Reasoning (CER) instructional strategy be effectively modified and integrated into any content area to better prepare students for college entrance exams?

Display **slide 5** and review the lesson objectives:

- Apply the CER instructional strategy to multiple content areas at different parts of a lesson.
- Explain how the CER instructional strategy supports the skills needed to be successful on College and Career Readiness exams.
- Construct a CER for your content area.

Display **slide 6**. Explain that the CER Instructional Strategy is one of almost two hundred student-centered strategies on K20's LEARN website. Briefly explain that CER is a strategy that can be used to scaffold students in forming an argument where they break it down into three parts.

- **Claim?** The answer to a posed question.
- **Evidence?** Material, sentences, and research to support the claim.
- **Reasoning?** Explanation of why the data/evidence supports the claim.

Play the video explanation of the CER strategy on **slide 7.**

20 minutes

Explore

Facilitator's Note: Preparation

Prepare the handouts for each of the content area CER activities according to your participants' attendance. For example, if you have a group of only English Language Arts teachers, then you only need to print out materials for that content area.

Likewise, **slides 10-26** are the same as the slides that participants will be looking at in their groups. These are hidden, but you could choose to go through any of these with the whole group depending on the size of your group. If you have a small group with only one content area represented, you may choose to hide slide 8, unhide the slides for the content area activity, and go through it all together.

Group participants, four per group of the same content area and display **slide 8.** Ask participants to go to the link on the slide relating to their content area. Then they will do the CER activity provided on the slides provided by the link.

- English/Language Arts: k20.ou.edu/cerela
- Math: k20.ou.edu/cermath
- Science: k20.ou.edu/cersci
- Social Studies: k20.ou.edu/cerss

Display **slide 9**. Pass out the **Lesson Note Catcher** handout and any handouts associated with CER activity for the content area lesson they will be exploring. Each person in the group should record what their group discusses for the prompts provided on the note catcher:

- Where in the lesson was the strategy used? (the beginning, middle, or end)
- What instructional purpose is the CER strategy serving in the lesson? (eg. to engage interest, elicit prior knowledge, as an argument analysis tool, to assess learning, or something else?)
- What skills will students practice as they participate in the CER strategy?

Display **slide 30** and introduce participants to a modified version of the Three Stray, One Stays instructional strategy. Inform participants that some of them will stay at their table while the others move to different tables throughout the room. Have participants sit in groups of 4, one from each content area. Once at their table, inform them that they are going to share the strategy on their Lesson Note Catcher handout with members from other content areas. As each member of their new table group is sharing, they should write down the information they share about the lesson they reviewed for each of the prompts on the handout.

15 minutes

Explain

Facilitator's Note: Preparation

Prior to the beginning of the session, create and print content area Sample ACT Questions.

Choose three to five questions from each subsection of an ACT practice exam. The website CrackAB.com has sample practice questions that are free to use. Create a handout for each subsection, and pass that out to participants. The following are links to the practice questions for each subsection:

- English: https://www.crackab.com/act/english/
- Social Studies (Reading): https://www.crackab.com/act/reading/
- Science: https://www.crackab.com/act/science/
- Math: https://www.crackab.com/act/math/

Facilitator's Note: Tech Integration Set-up

Link for the Mentimeter:
https://www.mentimeter.com/app/presentation/blobzrzygtwu1twj21p5jkct92fjv3vg/o5fbw22brzpd

Copy this presentation to your own account and update the link for your participants prior to facilitating the activity below. To do this, after entering the link above into your browser, select "Copy to your Account." Once in your account, choose "Share" to get a new link for your participants. Paste this new link and QR code into slide 31.

Then display **slide 31** and direct participants to join Menti and respond to the prompt, "In your area/discipline, what skills do your students need to prepare them for college and career readiness exams, such as the ACT/SAT?"

Discuss answers as a whole group.

Pass out the 5 ACT sample questions according to subsection: English, math, science and social studies (reading). Display **slide 32**. Have participants compare the skills they wrote on their lesson Note Catcher to the skills they identified as necessary for success on the ACT/SAT. Discuss how students can apply what they gain from implementing CER to the sample ACT questions for each content area.

Facilitator's Note: CER examples using sample ACT questions:

Hidden are two slides you may use to show examples of how CER can be used to prep for the math ACT (**slide 33**) and the English ACT (**slide 34**).

13 minutes

Extend

Display **slide 35** and have participants make a copy of the digital CER template. Then provide time for each to reflect and draft a way they could use the CER strategy in their classroom.

7 minutes

Evaluate

Display **slide 36** and have participants respond to the Two Stars and a Wish prompt:

- Stars: What are two benefits of incorporating CER into your lesson?
- Wish: What is one area that you will need help with in implementing this strategy?

Discuss as a whole group.

Research Rationale

Standardized tests, such as the ACT and SAT, have become one of the most important factors in college admission. According to the National Association for College Admission Counseling (NACAC), standardized test scores like the ACT or SAT are the fourth most important factor considered by college admissions groups (Clinedinst & Patel, 2018). For this reason, preparation for standardized testing is an enormous concern for high schools and their students. However, access to standardized test preparation has been inconsistent for historically underserved student populations. Student groups facing systemic disadvantages, such as those from low-socioeconomic backgrounds, often lack fair access to resources and instructional strategies shown to benefit their success in standardized testing. Ready access to more advanced coursework and instruction has been shown to support a stronger, more lasting impact on student test scores (Bastedo, Glasener, Deane, & Bowman, 2022). As such, high schools should aim to provide advanced coursework for all students and not just students in upper-track instructional environments (Giersch, 2018). Thus, schools must provide teachers with practical strategies for embedding the use of these resources within their class curricula. Once resources and strategies are made available across student and teacher groups, schools should assess which students still experience barriers to adequate standardized test preparation and why. Through this process, schools can efficiently identify students in need and then provide appropriate support based on their needs.

Resources

- Bastedo, M. N., Glasener, K. M., Deane, K. C., & Bowman, N. A. (2022). Contextualizing the SAT: Experimental evidence on college admission recommendations for low-SES applicants. *Educational Policy*, *36*(2), 282-311. https://doi.org/10.1177/0895904819874752
- Clinedinst, M., & Patel, P. (2018). State of college admission 2018. http://hdl.handle.net/10919/97736
- Giersch, J., Bottia, M. C., Mickelson, R. A., & Stearns, E. (2016). Exposure to school and classroom racial segregation in Charlotte-Mecklenburg high schools and students' college achievement. *Education Policy Analysis Archives, 24*(32). http://epaa.asu.edu/ojs/article/view/2123/1755
- K20 Center. (n.d.). Mentimeter. Tech Tool. https://learn.k20center.ou.edu/tech-tool/645
- K20 Center. (n.d.) Two stars and a wish. Strategies. https://learn.k20center.ou.edu/strategy/83
- K20 Center. (n.d.). Claim, evidence, reasoning (CER). Strategies. https://learn.k20center.ou.edu/strategy/156
- K20 Center. (n.d.). Three stray, one stays. Strategies. https://learn.k20center.ou.edu/strategy/85
- K20 Center. (n.d.). Fist to five. Strategies. https://learn.k20center.ou.edu/strategy/68