

## **"Use of the Pause Procedure in Continuing Medical Education: A randomized controlled intervention study."**

Richards LW, Wang AT, Mahapatra S, Jenkins SM, Collins NM, Beckman TJ, and Wittich CM. *Medical Teacher* 39.1 (2017): 74-78. doi:10.1080/0142159X.2016.1230664

### **Why We Chose It**

This article describes a simple, efficient and effective teaching method to increase active learning called the "pause procedure" that can improve educational outcomes. A pause procedure is when the presenter pauses for 1-3 minutes so participants can collaborate and discuss content. The technique is easy to incorporate within a lecture setting by having the presenter pause for at least one minute at the middle and end of a 45 minute presentation. Evaluations were higher for presenters who used the pause procedure and learners recalled more facts when the pause procedure was used. This simple technique takes very little time (~4 minutes per hour/ ~2 minutes per half hour) and improves the delivery of educational content.

### **Main Learning Points**

- Despite great strides in medical education and the promotion of active learning, the majority of faculty who teach within CME activities use lecturing as a primary teaching strategy.
- A learner's attention begins to wane and knowledge recall decreases after 10-15 minutes into a didactic lecture.
- Research has shown that learners recall 70% of the material from the first 10 minutes of lecture but only 20% of the material presented in the last 10 minutes.
- To counteract waning attention and to enhance learner retention of the material, it is recommended to engage the learners actively.
- A "pause procedure" or "learning boost" is where a presenter stops or pauses periodically within a lecture for learners to review, assimilate and clarify information.
- Research has shown that pause procedures yield an additional 10-15 minutes of recall and significantly improve educational outcomes.
- This paper randomized 48 presentations (30 or 45 minutes in length and 2 small group sessions) at an Internal Medicine Board Review Course to either the intervention group (pause procedure) or the control group (no pause procedure – typical didactic lecturing).
- Intervention consisted of a 1-minute pause inserted midpoint and at the end of the presentation for the 30-min lectures (2 pauses total) and about every 15 min for the 45-min lectures (3 pauses total). Presenters were asked in the intervention group to shorten their talks by 2-3 minutes.
- During the pause procedure, a slide appeared with a 1-min countdown clock with instructions for participants to either discuss with their neighbor what they had learned in the previous 15 minutes or to independently review and clarify their notes.
- All learners (control and intervention) participated at the end of each half day of the five day conference in a 5 minute "rapid recall" where each participant wrote down as many facts as they could recall from the previous 4 hours.
- Outcomes of the pause procedure in this study:
  - Mean presentation evaluation scores were significantly higher for the teachers who used the pause procedure (70.9 vs 65.8,  $p < 0.0001$  – percentage of seven items rated as "strongly agree")
  - Mean number of rapid recall items was higher for pause procedure presentations (0.68 vs 0.59,  $p < 0.01$ , average number of rapid recall items per presentation)
  - Participants were very enthusiastic about the pause procedure and rapid recalls in their written comments!

### **How These Principles Can Be Applied to CME**

- A pause procedure could easily be incorporated into live CME activities or webinars.
- Rapid recalls could also be added throughout live CME activities.
  - Variations could include a randomized learning and coffee break where participants have a number or half a picture located under their chair and they are to find the person with the matching number or other half of the picture. Once their pair is located, they spend 15 minutes discussing what they learned with someone they just met and thus enhancing the networking of participants as well.
- A reflection pause, which is a pause procedure that can be used in written or online materials, is where learners reflect on a series of questions over the previously read/learned material. This could be incorporated into items such as Pediatrics in Review, NeoReviews, or Pediatric Grand Rounds.
- A rapid recall could be included after a month's PREP SA questions had been completed.