## ADAPTING A TEACHING METHOD TO FIT PURPOSE AND CONTEXT

By Mirjam S. Glessmer, Catherine Bovill, and Kjersti Daae

Both in the literature and in teacher training, teaching methods are often presented as highly structured with explicit phases and durations (Møgelvang, 2023), sometimes even with flow charts to follow (see, e.g., Lasry et al., 2008). Because engaged teachers want to optimize conditions for student learning, this can lead to the misunderstanding that there is one correct way of using a method. But from many studies (e.g., Schneider and Preckel, 2017), we know that it does not matter so much what method a teacher uses, as long as it is used intentionally and well. We are writing this column to encourage instructors to experiment with teaching methods and to adapt methods to their specific contexts and purposes.

Here, we present one example of how to modify an existing method. The "Doughnut Round" (Fleiszer et al., 1997) scaffolds reading and developing questions in preparation for structured and collaborative in-class discussions, where the students ask each other questions in a game show style and score points for correct answers. We call the method ReADi (Read-Ask-Discuss) to highlight its three phases, and we provide an overview of some possible design elements that can be extended and adapted to make ReADi suit different purposes (Table 1).

Instructing students to read, answer questions, and discuss are common teaching strategies, though prompting students to develop good questions is not as common (McQueen and McMillan, 2020). But developing questions is particularly useful to support learning by facilitating active engagement with content, for example,

with data visualizations (Zrada et al., 2019) or for exam preparation (Denny, 2015; Teplitski et al., 2018). ReADi uses the development of questions as a tool for fostering deep engagement with texts, and the method has been used to teach factual knowledge (Bulstrode et al., 2003) and improve students' confidence and communication skills (Zhang et al., 2017). Most colleagues report using the ReADi method in similar ways; however, there are also some differences, for example, in who chooses reading materials, who assesses, and whether points are awarded. Sohrabi et al. (2024) ran an online version of ReADi that introduced a penalty for wrong answers, although penalizing students can be counterproductive for student engagement. ReADi can be modified in many more ways.

To make learning situations motivating for students, we can invite them into the decision-making process of adapting methods to their context (Bovill, 2020; Glessmer and Daae, 2021). Many aspects of ReADi can be adapted in negotiation with students, from smaller adjustments of the method, such as decisions on what to read, to larger adjustments, such as choosing if and how competition elements should be included (Table 1). Based on what we see in the literature, introducing competitive elements seems to work well in some North American contexts. From our experience in a Scandinavian context, teachers (and students) do not embrace competitive elements to the same extent. If some students find competition in the learning environment to be engaging, there are

ways to make competition more appealing. For example, students can choose to create and respond to questions in groups and/or can co-design other competition elements (Table 1). Simply asking which parameters students might want to do differently and being open to making those adjustments can make a big difference for student engagement and, thus, learning.

Some aspects of ReADi are influenced by the frame in which a course is being taught and by how the teacher wants to use the method. In general, the teacher should provide a framework to ensure the activity fits the desired context (e.g., demands of small master's courses are different from large undergraduate courses; teaching assistants might not have the same flexibility as course coordinators). Teachers may want to retain control over what reading material is provided to ensure that the course's specific intended learning outcomes are met. If quality control is a concern, teachers may also choose to have students submit questions before discussions take place, or they may choose to take on the role of adjudicator of answers.

To ensure an equitable learning environment, we encourage teachers to also consider recommendations from the literature, for example, by assigning students to groups rather than letting them choose groups themselves (Oakley et al., 2004; Tanner, 2013). Most often, the teacher is the catalyst for co-creation—therefore, the teacher needs to be open to this possibility. Heron (1992) argues that at every decision stage of teaching (and in this case we could argue at all the stages of ReADi), the teacher can choose to take authority

**TABLE 1.** Facets of the ReADi (Read-Ask-Discuss) method with three possible implementation alternatives, with an empty column for a fourth alternative, where readers can make their own entries. The teacher can determine the exact implementation or negotiate one or several aspects with the students. One example implementation (shaded fields) is shown in which the goal is to encourage reflection and critical thinking, the teacher facilitates the process, the students work in pairs on open-ended questions, and no competitive elements are involved.

FEATURES OF METHOD	ALTERNATIVE I	ALTERNATIVE II	ALTERNATIVE III	ALTERNATIVE IV
Intended learning outcomes	Factual knowledge	Reflection and critical thinking	Communication skills	
Meeting type	In-person	Online	Hybrid	
Repeat use of method	2–4 times	Regularly	No	
Teacher role	Quality control	Game show host	Facilitator of process	
Who decides how to use the method	The teacher	Students and teacher co-create some aspects	Students and teacher co-create all aspects	
Who decides the reading material	The teacher	Students and teacher decide together	The students	
Question preparation	Individuals	Pairs	Group	
Types of questions	Closed, e.g., multiple choice, yes/no, true/false	Open, but one correct answer exists	Open-ended, meant to engage people in discussion	
Question submitted/assessed before discussion	Yes	No		
Next speaker	Fixed order	Picked by current speaker	By show of hands	
Responding to questions	Individually	Pairs	Team	
Assessment of answers	By teacher or facilitator	By question owner	Not assessed	
Competition	Game show	Some competitive elements	No competition	
Points for questions	No	Yes		
Points for answers	No	Yes		
Tracking of points	Visible, e.g., on blackboard	Anonymously online	No	
Rewards	No	Yes		
Other feature i				
Other feature ii				

over decisions, to negotiate, or to delegate responsibility to students. Teachers have a vast range of possibilities for adapting their teaching approaches and methods.

Here, we described how a method can be dissected into parts and adapted in different ways for different purposes and contexts. We encourage teachers to explore ReADi in this way, as well as to consider how other methods they are using might be adaptable, and which aspects might be negotiable with students, to maximize student engagement and learning.

## **REFERENCES**

Bovill, C. 2020. Co-creating Learning and Teaching: Towards Relational Pedagogy in Higher Education. Critical Publishing, 96 pp.

Bulstrode, C., F.A. Gallagher, E.L. Pilling, D. Furniss, and R.D. Proctor. 2003. A randomised controlled trial comparing two methods of teaching medical students trauma and orthopaedics: Traditional lectures versus the "donut round." *The Surgeon* 1(2):76–80, https://doi.org/10.1016/S1479-666X(03)80119-1.

Denny, P. 2015. Generating practice questions as a preparation strategy for introductory programming exams. Pp. 278–283 in *Proceedings* of the 46th ACM Technical Symposium on Computer Science Education, https://doi.org/10.1145/2676723.2677253.

Fleiszer, D., T. Fleiszer, and R. Russell. 1997. Doughnut Rounds: A self-directed learning approach to teaching critical care in surgery. *Medical Teacher* 19(3):190–193, <a href="https://doi.org/10.3109/01421599709019380">https://doi.org/10.3109/01421599709019380</a>.

Glessmer, M.S., and K. Daae. 2021. Co-creating learning in oceanography. *Oceanography* 35(1):81–83, https://doi.org/10.5670/oceanog.2021.405.

Heron, J. 1992. The politics of facilitation: Balancing facilitator authority and learning autonomy.
Pp. 66–75 in Empowerment Through Experiential Learning: Explorations of Good Practice.
J. Mulligan and C. Griffin, eds, Kogan Page, London.

Lasry, N., E. Mazur, and J. Watkins. 2008. Peer instruction: From Harvard to the two-year college. American Journal of Physics 76(11):1,066–1,069, https://doi.org/10.1119/1.2978182.

McQueen, H., and C. McMillan. 2020. Quectures: Personalised constructive learning in lectures. Active Learning in Higher Education 21(3):217–231, https://doi.org/10.1177/1469787418760325.

Møgelvang, A. 2023. Cooperative learning in oceanography. *Oceanography* 37(1):157–159, https://doi.org/10.5670/oceanog.2023.302.

Oakley, B., R.M. Felder, R. Brent, and I. Elhajj. 2004. Turning student groups into effective teams. Journal of Student Centered Learning 2(1):9–34.

Schneider, M., and F. Preckel. 2017. Variables associated with achievement in higher education: A systematic review of meta-analyses. *Psychological Bulletin* 143(6):565–600, <a href="https://doi.org/10.1037/bul0000098">https://doi.org/10.1037/bul0000098</a>.

Sohrabi, Z., D. Rasouli, E. Ramezanpour, and A. Zhianifard. 2024. Comparing the effect of virtual doughnut educational rounds and online lecture method on the learning and satisfaction of operating room nursing students: A self-directed learning method. *Health Education and Health Promotion* 12(1):1,001–1,007.

Tanner, K.D. 2013. Structure matters: Twenty-one teaching strategies to promote student engagement and cultivate classroom equity. CBE—Life Sciences Education 12(3):322–331, https://doi.org/ 10.1187/cbe.13-06-0115.

Teplitski, M., T. Irani, C.J. Krediet, M. Di Cesare, and M. Marvasi. 2018. Student-generated preexam questions is an effective tool for participatory learning: A case study from ecology of waterborne pathogens course. *Journal of Food Science Education* 17(3):76–84, <a href="https://doi.org/10.1111/1541-4329.12129">https://doi.org/10.1111/1541-4329.12129</a>.

Zhang, Y., M.A. Zerafa Simler, and I. Stabile. 2017. Supported self-directed learning of clinical anatomy: A pilot study of doughnut rounds. European Journal of Anatomy 21(4):319–324.

Zrada, M., K.A. Kastens, and M. Turrin. 2019. How to help your students ask more and better questions. Oceanography 32(4):204–206, https://doi.org/ 10.5670/oceanog.2019.404.

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