

## The Power of Distractors

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“Assessment is, indeed, the bridge between teaching and learning.”

—Dylan William

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Consider for a moment how many of your university classes focused on developing student assessments. In most cases, the answer is *none* or *one* at most. Yet accurately assessing student learning is one of your most important responsibilities as a teacher. When teachers design them intentionally, assessments not only give an accurate measure of student proficiency but also provide teachers with important information on how to adjust instruction and provide students with much-needed intervention.

Coauthors Rick Stiggins and Richard DuFour (2009) make the case that common assessments are an extremely powerful method of promoting student achievement because “teachers can pool their collective wisdom in making sound instructional decisions based on results” (p. 643). However, the results Stiggins and DuFour (2009) are referring to involve more than the percentage of students scoring proficient. Through detailed analysis of correct and incorrect answers (distractors), teams can learn a tremendous amount about students’ learning.

Distractors allow teachers to “follow up with additional instruction based on the most common sorts of errors made by an individual student or group of students” (Popham, 2000, p. 244).

### Ensure Reliability

Before teachers can analyze the assessment results, they must develop a valid and reliable assessment. While teachers typically spend most of their time and energy crafting rigorous questions and identifying correct answers, developing the wrong answers (distractors) is just as important. Reflecting on distractors allows teachers to think deeply about their expectations of the learning targets within the standard, the possible misunderstandings students might have about the target, and the typical mistakes students could make when applying the concept. When creating multiple-choice items or matching assessment items, effective teacher teams engage in the following steps for each item. To ensure reliability, three to four items should represent each learning target.

1. Identify the specific learning target the item will assess.
2. Craft a question that aligns with the target at the appropriate level of rigor (DOK). This contributes to more valid and reliable assessments.
3. Compose the correct answer.
4. List common mistakes students typically make when answering the question.
5. Brainstorm plausible misunderstandings students might have about the target.
6. Based on what the team decides, create separate distractors to represent the possible mistakes and misunderstandings students may have about the target.

When teams anticipate student mistakes and misunderstandings, teachers can design assessment items that help their teams learn about their students’ learning. “Based on the results from distractor analysis, instructors can identify the content areas that need instructional improvement and provide students with remedial instruction in those content areas”

(Gierl, Bulut, Guo, & Zhang, 2017, p. 1086). Teacher teams that analyze results of thoughtfully created assessments are rewarded with powerful information about student needs.

## Analyze Trends

Effective teams access this information by analyzing results by item, paying special attention to how many students chose each distractor. They look for patterns and trends that indicate group misunderstandings, which sometimes indicate problems with curriculum or instructional strategies. In other cases, they simply reflect a miscommunication. Either way, teachers can use the patterns distractors identify to make impactful instructional choices for the class as a whole.

## Diagnose Specific Student Needs

In addition to studying overall patterns and trends in the distractors students chose, highly effective collaborative teams analyze data by target, teacher, and individual student need. Distractors can be instrumental in diagnosing specific student misunderstandings and creating intervention groups based on those data. “Distractor analysis can help test developers and instructors understand why students produce errors and thereby guide our diagnostic inferences about test performance” (Gierl et al., 2017, p. 1085). Let’s take a look at a real-world example.

If a team wants to measure whether students can identify the central idea of a text, members might create an item that directs students to read a short piece of text, and then choose the answer that best depicts its central idea, which educators label *distractor A*. When creating distractors, the team recognizes students often confuse supporting details with the main idea. To help the team understand which students are making this mistake (supporting details versus main idea), members create an answer that focuses on specific details rather than the overall central idea—*distractor B*. The team also realizes some students may need assistance in general comprehension. To help identify those students, the team develops *distractor C*, which provides a central idea opposite of the correct answer. Of course, one answered question does not reliably tell teams whether a student has mastered a target; teams should ideally create three or four items on the same target to accurately obtain that information.

To carry this example further, the team may then identify all students who chose *distractor B* and provide additional time and support on the differences between a main idea and supporting details. The team may also group together students who chose *distractor C* so they can spend more time closely reading text, using strategies that help them identify the author’s purpose, and uncover the main idea. In both cases, the team analyzes the data by individual student and responds by providing students with additional time and support to meet their specific learning needs. Educators often refer to this process as *analyzing data by name and need*. Again, this example depicts the analysis of just one question. Teams will ideally analyze all three or four items on the same target to determine if students are routinely confusing supporting details with the main idea or consistently struggling with comprehension.

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“The patterns in a student’s incorrect responses to items can provide powerful, valuable information to guide instruction.”

—Kelly V. King, Doug A. Gardner, Sasha Zucker, and Margaret A. Jorgensen

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Although creating valid and reliable assessments can be intimidating, teacher teams really need to take a *just do it* approach. The first step is to avoid overfocusing on question stems and correct answers and begin paying close attention to the power of distractors. By designing specific distractor items that reveal information about students’ learning, teachers can provide students with additional time and support on the learning targets where they need it most. Even though university classes may not have adequately trained educators to create assessments that provide valuable information about students’ learning, it is never too late to learn!

## References

- Gierl, M. J., Bulut, O., Guo, Q., & Zhang, X. (2017). Developing, analyzing, and using distractors for multiple-choice tests in education: A comprehensive review. *Review of Educational Research, 87*(6), 1082-1116.
- King, K. V., Gardner, D. A., Zucker, S., & Jorgensen, M. A. (2004). *The distractor rationale taxonomy: Enhancing multiple-choice items in reading and mathematics*. San Antonio, TX: Pearson.
- Popham, W. J. (2000). *Modern educational measurement: Practical guidelines for educational leaders* (3rd ed.). Boston: Pearson.
- Stiggins, R., & DuFour, R. (2009). Maximizing the power of formative assessments. *Phi Delta Kappan, 90*(9), 640-644.
- William, D. (2018). *Embedded formative assessment* (2nd ed.). Bloomington, IN: Solution Tree Press.