Exit Tickets
The ideas students bring to class and their perspectives on what is happening in the classroom change constantly. Keeping track of these changes is useful for adapting lessons, nurturing student self-reflection, increasing student ownership of learning, and building a teaching practice responsive to learners’ needs. In this article, we discuss how a simple formative assessment tool—exit tickets—can be used to help teachers do this work.

Exit tickets are short response tasks that teachers administer to students after an activity (such as laboratory experiment) or class period. They present opportunities for teachers to elicit students’ thinking without affecting their grade, provide individualized feedback, and identify learning needs or modifications to an instructional plan (Black and Wiliam 1998).

Exit tickets can be used to ask students about their understanding of a science idea (e.g., respiration or sound energy), everyday experiences that relate to the current unit, or comfort level with a given skill (e.g., use of calorimeters or data analysis). They can also be used to record the strategies students used to prepare for an assignment, small group dynamics, or whether students felt their ideas were valued in class.

To be effective, an exit ticket should have specific prompts for students and take only about five minutes to complete. Students can record their responses on index cards, sticky notes, notebook paper, or online (e.g., Google Forms, Padlet, Schoology, etc.). Ideally, student responses inform the next stages of learning by highlighting whether teachers should clarify ideas, reteach them, extend them, offer practice, introduce new ideas, or restructure future instructional activities (Marshall 2018).

Additionally, studies suggest that formative assessments can be used to do more than evaluate student content understanding—they can help develop and maintain equitable teaching routines. The Center for Educational Research and Innovation (CERI 2005) highlights how “teachers using formative assessment approaches and techniques are better prepared to meet diverse students’ needs—through differentiation and adaptation of teaching [to] achieve a greater equity of student outcomes.” Gloria Ladson-Billings (1995) examines the concept of using formative assessments to increase equity in classrooms, arguing that among other factors, equity depends on teachers maintaining fluid teacher-student relationships and demonstrating connectedness with all students.
Exit tickets are unique in that they routinize access to students’ thinking and reflections while providing a private, protected platform for students who do not typically contribute publicly to share their perspectives. In doing so, exit tickets can support conditions where all students have a voice in the classroom, know they are heard, and can share ownership of the learning. This feedback loop is shown in Figure 1. Next we discuss different types of exit tickets (including those that can be used as tools to assess equity) and share practical strategies for using them in the secondary science classroom.

Our “mini-experiment”
We organized a group of middle and high school science teachers from varying science disciplines to explore the use of exit tickets across 13 classrooms so that we could work toward best practices for designing, analyzing, and then acting on these assessments. Each teacher selected from several types of exit tickets (see Table 1), designed specific prompts, and then proctored, collected, and analyzed one set from a middle school or high school class. We share several specific examples of exit tickets later in the article.

The only caveat was that we asked teachers to store the exit tickets in an envelope and wait until we were all together to review them. On the day of the review, teachers were given seven minutes to look through their exit tickets, make sense of the results with a partner, and consider next steps. While this time frame may seem too short, what good is an exit ticket if results cannot be quickly interpreted after school or during a single planning period?

What we learned
Teachers began their reviews by predicting what they expected to uncover and why. Predicting student responses before looking at the tickets can be a useful reflective practice, but we also stressed that participants should remain open to unexpected results. After opening the envelopes, teachers quickly sorted the exit tickets (Figure 2) into piles representing:

- most-common to least-common responses
- topics or components of a science idea that students write about
- apparent depth of understanding
- types of hypotheses about an event or process
- ideas students are puzzled about
- degree of self-perceived participation (in a group, whole class)
- degree to which students say their ideas are “listened to” by others
- ideas students have about lab skills or science and engineering practices
- helpful or unhelpful teacher practices

During the sorting process, teachers could be heard around the room discussing common themes in the exit tickets. While some reviewed the pile sizes to estimate trends, a few tallied individual responses for more precise analysis. We picked up comments like “I think my questions were not clear enough to get at what my students know” “I don’t think most of them understand ________” or “I need to pay careful attention to [this group of students] because ____.” One teacher noted: “Wow this is really good to know. About half of my students want more instruction on ions.” Another teacher was pleased to realize that “lots of my students were super honest—I thought
<table>
<thead>
<tr>
<th>Focus of exit ticket</th>
<th>Examples of prompts and prompt formats</th>
<th>What teachers can do after analyzing exit tickets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understandings concepts or practices</td>
<td>“Can you put the process of _____ in your own words?” “Why do you think we create models in science?”</td>
<td>Adjust future learning experiences to reteach, extend, or move onto the next concept in a unit. Share and discuss with students’ varied responses to items about science practices.</td>
</tr>
<tr>
<td>Students’ understanding of a science concept</td>
<td>Typical format: Short answer, quick drawn models, multiple choice.</td>
<td></td>
</tr>
<tr>
<td>Students’ knowledge of science practices and understanding their purposes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Students’ knowledge from outside of school</td>
<td>“Describe one or two things from your life outside of school that connect with...” “What are some places or events you know about that relate to our current topic?” “How does _____ impact our local community?”</td>
<td>Use funds of knowledge as examples, ask students to share experiences with class, or use to address misconceptions that relate to these ideas. Plan for field trips, guest speakers or projects that connect with the local community. Be sure to share that these connections came from classmates.</td>
</tr>
<tr>
<td>Student experiences with hobbies, family life, or extracurriculars that may relate to the unit</td>
<td>Typical format: Short answer</td>
<td></td>
</tr>
<tr>
<td>Potential community resources relevant to the unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students’ familiarity with a local science event or process you might reference in upcoming lesson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Self-reported participation or preparedness</td>
<td>“During this project I had chances to contribute to my group...” [scale response] “We need more information about ____ to move our project forward.” “What strategies did you use to prepare for this final assessment? Check all that apply.”</td>
<td>Reflect class-level participation data back to students, discuss strengths and areas for improvement with the class or individual students. Use feedback to determine future lab groups or make instructional decisions to increase participation and equity.</td>
</tr>
<tr>
<td>Student opportunity to participate equitably in group work</td>
<td>Typical format: Checkboxes, Likert scales and short answer</td>
<td></td>
</tr>
<tr>
<td>Student progress toward goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student preparedness for an assessment and ways in which they prepared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comfort level in class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Teacher or lesson feedback</td>
<td>“If [teacher name] explained more about ______ I would understand ______ better.”</td>
<td>Reflect class-level data back to students, discuss, and then use student valued practices or types of lesson activities more frequently.</td>
</tr>
<tr>
<td>How students value a lesson activity</td>
<td>Typical format: Fill-in-the-blank, short answer, checkboxes, and student-generated lists</td>
<td></td>
</tr>
</tbody>
</table>
more would fudge about how much they prepared for the quiz, but I really don’t think they did.”

One participant, unable to quantify student answers, shared two exit tickets that illustrated a proper but unhelpful answer; it was unclear whether the student was hiding behind scientific vocabulary or truly understanding the concept. Recognizing that this resulted from the phrasing in her prompts, she decided to reword one question from “What is Standard Temperature and Pressure (STP)?” to “Why is STP necessary for understanding our phenomenon?” She reworded another from “List two reasons why volume is variable,” to “What are two reasons the balloon expands and two reasons the balloon contracts?”

**FIGURE 3**

Exit ticket for content check.

**PROMPT:** List two concepts you need to understand better to finish your final model completely.

**Strength:** It is great to see a prompt oriented toward working on a final model, as compared to test preparation—gives implicit value to this activity.

**Suggestion:** Space provided on very small squares of paper did not encourage longer, more specific responses from students. Be sure to give enough space for students to elaborate.

*What patterns do I see?* “As a pattern, I see students giving me specific biological processes but not giving me anything about the process that they don’t understand.”

*How would I change the formatting of the exit ticket or what I ask for?* “To get more actionable info I would add a follow-up question that asks what about the process don’t they understand. Armed with this (more specific) information I could guide pre-test review more intelligently.”

*How will I respond to this information in a way that is visible and empowering to students?* This teacher admitted that the time needed to respond to students’ needs was creating logistical problems. He wished he had not waited until the day before the test review to give the exit ticket because he felt he had few options for addressing students’ confusion around the topic (biosynthesis). His plan was to “include biosynthesis as an entry task, giving it extra attention during test review” but wished he had time to return to this concept with a lab or other learning activity before the test.

**Big Takeaway:** Open prompts can be helpful, but many students will struggle to articulate what they do not know. Consider posting a list of processes or vocabulary, passing out older models/hypotheses, or referring to a summary chart of lesson activities or another resource to initiate thinking about more specific concepts. The more specific the student answer, the more meaningful a teacher’s response.
Two versions of exit ticket on preparedness.

**FIGURE 4**

**What patterns do I see?** [This teacher compared exit tickets to quiz scores during grand reveal.] “Some accurate assessment of what students struggled with. Some not—they need to develop metacognitive skills. Also, labs were helpful.”

**How would I change the formatting of the exit ticket or what I ask for?** After analyzing all of the exit tickets (including the ones scaffolded for IEP students), this teacher decided that in the future she would use scaffolded versions with all students, if she added additional space to allow students to elaborate.

**How will I respond to this information in a way that is visible and empowering to students?** “Would have liked to use exit slips and quiz results to inform areas of emphasis for review. Lots of students felt quizzes were helpful—is this because of direct feedback? vs. self-assessment? May need to spend time helping them develop these skills.” This teacher discussed starting journals where students would be asked to regularly participate in metacognitive reflection on their learning and progress.

**Big Takeaway:** Student answers may reveal an unexpected skill gap that the exit ticket was not originally assessing for (in this case students’ developing metacognitive/reflective skills). Like an information target on the exit ticket, these gaps should also be addressed with future instruction/adaptation.
FIGURE 5

Exit ticket on reflections on participation and study habits.

What patterns do I see? This teacher noted that the majority of students ranked the material as a 3 out of 5 in terms of difficulty. Also, many students found the stations on force diagrams or pie charts helpful.

How would I change the formatting of the exit ticket or what I ask for? “Fewer questions and more specific exit slips for after major activities to see how supports/modifications can be implemented during the learning process.”

How will I respond to this information in a way that is visible and empowering to students? “I am going to use stations more frequently. Also, perhaps look at the other activities that weren’t mentioned at all to see how I can make them better learning tools.”

Big Takeaway: This teacher struggled because it was unclear which ticket belonged with which student. The teacher explained that being able to compare this feedback with students’ other written reflections about the quarter would have been helpful. We recommend thinking critically about when to require names and when not—perhaps inviting names when group work, voice, and preparedness are the target. No names when commenting on value of teacher moves, lesson design, etc.

With the sorting stage complete, teachers examined the sorted piles and answered a set of questions:

- What patterns do I see?
- How would I change the formatting of the exit ticket or what I ask for?
- What am I going to do about what I see? How will I respond to this information in a way that is visible and empowering to students?

Responses to these questions varied greatly; a few teachers promised to start class the next day with a class discussion about how the classroom environment could be more supportive for learning. Another teacher expressed her plan to speak with a few individuals about the growth of their ideas. Still others planned on grouping students by their familiarity with content ideas, improving specific types of activities to better meet the needs of students, and more thoughtfully reviewing concepts using the gaps identified in the exit ticket responses.

Figures 3–6 show different types of exit tickets and how teachers made use of them. For each, we provide teachers' reflections, evaluate the strength of the exit ticket itself, and offer suggestions.
FIGURE 6

Exit ticket for participation in partner talk.

Structured A-B Talk

Today you talked with your table partner and asked each other questions to deepen your thinking. Answer the question below about your structured talk.

Today during the structured talk, I did the following:*

- I shared my idea.
- I listened to an idea.
- I revised or repeated my partner’s idea.
- I learned something new from my partner.
- I found a difference between our ideas.
- I found a similarity between our ideas.
- I changed my idea(s) because I heard something new.
- I asked my partner a question.
- I asked a question that made my partner think more.

**Strength:** The question is written in student language and the participation statements are in first person—which will help students access the exit ticket and prompt more personal reflection.

**Suggestion:** When students are reporting their participation, it is important to invite students to provide multiple answers. Include this option in the directions so students know they don’t have to only select one option.

What patterns do I see? This teacher noted that out of the 17 students who responded, about half reported engaging in deeper work with ideas during partner talk, including questioning (which was a class focus). In glancing at individual responses, they also noted that several students checked off all the boxes.

How would I change the formatting of the exit ticket or what I ask for? The teacher did not consider changing the formatting, but rather the framing—that to think about how talk is going in class, students need to accurately report the specific things that they did.

How will I respond to this information in a way that is visible and empowering to students? The teacher planned to put the graph up in class the next day and invite students to revisit what these forms of talk sound like and why they might be useful. This helps review what the items mean and to think about the purposes of different forms of talk for learning.

Big Takeaway: Exit tickets can be designed in first-person, student-friendly language to quickly collect information about who was participating in group work and how.
Summary
After making sense of students’ responses and determining next steps, teachers worked together to generalize criteria for designing and administering quality exit tickets. These included:

- Frame the reasons you are asking students to provide information. If students understand how the information will be used, they are more likely to provide relevant, accurate responses.
- Keep the length short (no more than one to two questions if students are asked to do more than select answers).
- Write simple directions, worded with precision (no room for ambiguous language).
- Connect with the day’s learning experiences—don’t reach back in time with your prompts.
- Design prompts to elicit more than one-word responses.
- Vary the format depending on population of class (English language learners, age, students with IEPs or 504s, etc.).
- Do not limit yourself to administering exit tickets at the very end of class—they can be productive in the middle or even at the beginning and end to see evolution of student thinking and measure a lesson’s success.
- Consider using online exit tickets if computer use is a routine part of classroom procedures. Doing so alleviates the need for hard copies and can reduce sorting time because many digital programs can generate summary reports. (A few free user-friendly digital tools that automatically generate reports include: Google Forms, Socrative, PollEverywhere, or even Twitter.)

Options for structuring and using exit ticket feedback to inform classroom practices and interactions with students are endless. The power of exit tickets lies not only in informing instructional decisions—it includes the public acknowledgment of students’ ideas and making adaptations of lessons, based on these responses, transparent to students (Marshall 2018). Importantly, exit tickets can also give voice to students who are otherwise silent in class, including English language learners and students “on the margins” of classroom life, and can draw your attention to who is being served in which ways, giving you critical information for shaping your practice to enhance equity and inclusivity.

REFERENCES