



## How Students Can Take Control and Personalize Their Learning

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Naiku is a next generation assessment platform, providing teachers with comprehensive assessment tools to help teachers collect data about their students to make informed instruction.

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## Introduction

When people hear the phrase “personalized learning” it stimulates a warm and cozy feeling. If you break down the two words in the phrase, you will see that it focuses on the “person” or the “learner”. Thus, personalized learning is student or learner centered. It is the educational approach where the student drives the learning. Students take responsibility for their learning by setting appropriate goals that align with their interests and talents, monitoring their progress, and staying motivated and challenged to meet those goals. And it is those things that are student or learner-centric that fill educators’ hearts with warmth and joy.

“Assessment” on the other hand is a term that does not appear to engender the same warmth and coziness. People often think of assessment as a cold and rigid process that is teacher-led and teacher-focused. Teachers create the assessments to measure what their students know and can do. It is all about obtaining information about the effectiveness of the instruction. Right?

Personalized learning and assessment may appear to be at the opposite ends of the education continuum. But they can and should co-exist. One effective way to personalize learning is to engage students in better (i.e., learner-centric) assessment practices. Assessment does not just have to be a summative measure of what students know and do not know. It can be a personal and introspective process where students take ownership and responsibility to self-assess and reflect on their learning. This personalized assessment process is called “learner-centric” assessment.

## Student Engagement Strategies

Learner-centric assessment requires the engagement of students in the assessment process. It is the use of strategies that help students take control of their learning. These strategies have been shown through research to have significant impact on student learning. It is use of strategies that help students personalize the assessment process, turning a testing event into a learning experience.

## Goals and Expectations

Teachers know that student expectations play an important role in student learning. It is important for students to set appropriately high and challenging goals. And it is the task of teachers to help all students meet or exceed those expectations.

How can teachers know what expectations students have set for themselves? One simple and effective way to gain visibility to student expectations and to personalize the assessment experience is to ask students to regular set mastery goals. When students set goals, they internalize and better understand the goal or target, where they currently are in relation to that target, and how they will bridge the gap between their current state and their target state.

In addition to goal setting, teachers can also ask students to predict their scores on an assessment before they attempt the assessment. Students who set high expectations are more likely to correctly predict their scores.

## Confidence Ratings

Another way for teachers to gain visibility into student expectations and to further increase engagement is to ask students to rate their confidence in their answers as they solve each item. The confidence ratings of students are in essence their prediction of how well they think they will do. It provides insights into the expectations that they have set for themselves.

So instead of just asking students to choose or construct the answer to the assessment items, ask them to also express their level of confidence in their answer. This can be as simple as asking students to select from one of three options: *Low, Uncertain, and High* confidence.

## “Tell Me More”

To further help students personalize the assessment experience, ask students to “tell me more” about how they arrived at their answer. Ask students to explain their reasoning for their answer choice. Or ask students to show their work for a math problem. Alternatively, ask students to explain their confidence rating.

### 3

When students engage in the “tell me more” practice and are asked to explain, they often reveal more of their level of understanding or misunderstanding of the content or skill being assessed. Knowing more about what students know is the objective of assessment. So to know more about your students, direct your students to “tell me more” about their answer and confidence rating.

### Student Reflections

After predicting their performance and telling more about how they arrived at the answer, students now have the opportunity to reconcile their predictions with their actual performance. This is a key instructional strategy known as reflection. Ask students to reflect on their overall test performance, noting what they did well and didn't do so well. Also ask students to reflect on their performance on each item, providing feedback to themselves and their teacher whether they got the answer right because they *know and understand the concept or guessed correctly*. And if they got the item wrong, they can reflect on whether they got it wrong because they *don't know the concept or made a simple mistake*.

Reflection is also a powerful technique to help students practice and develop their metacognitive skills. In addition, the reflections allow students to provide feedback to themselves and to their teachers on their level of understanding. This is a great way to internalize or personalize their learning.

### Feedback

Feedback is a fundamental process in assessment. We have to measure to know where the students are, so that we can direct or instruct them to where they need to go. Based on assessment results, teachers can give feedback to verify the correctness of the student response. They can give feedback to explain the rationale for the correct answer and for incorrect responses.

Feedback does not have to occur in a vacuum. It should not be provided just after the assessment is completed. It can and should be provided during and post assessment. And feedback should not be a one-way street. It should not be just teachers giving feedback to students. Researchers have found that student self-

## How Students Can Take Control and Personalize Their Learning

assessment (i.e., students giving feedback about and to themselves) can be equally or even more effective than feedback solely from the teacher.

### Putting it All Together in the Classroom

How can a teacher incorporate all of these techniques in the classroom to help students personalize their learning and turn the testing event into a learning event?

The answer lies at the intersection of technology and assessment. Today, next generation assessment tools such as Naiku allow teachers to easily engage students in better assessment practices. With Naiku's web-based assessment creation and delivery platform, teachers can engage students in learner-centric assessment techniques to help them personalize the assessment experience. In a typical classroom, this process might look something like this.

### Before the Assessment

For each class, ask students to set mastery goals for the class and for each learning target or standard. In Naiku, students are encouraged to write weekly or bi-weekly goals pertaining to the learning targets that will be covered during the week or the next two weeks. These goals, when written out, help them internalize and understand the learning targets. They also help students set performance expectations so that they can strive to meet or exceed them. When practiced regularly, goal setting becomes a journaling opportunity for students to reflect on what it is that they are to learn, where they are currently in relation to those goals, and where they need to go to achieve those goals.

Assessment	Open Until	Time Limit	Actions
Pythagorean Theorem Quiz <span>Take test</span>			
Assessment	Score	Items correct	Date
Math Quiz 2	2 of 5	2 of 5	2013-02-05
Math Quiz 1	4 of 5	4 of 5	2013-02-04
Math Test 1	4 of 5	4 of 5	2013-11-07
Math Quiz 3	2 of 5	2 of 5	2013-08-20
Right Triangle Quiz	2 of 4	2 of 4	2014-10-11

Figure 1. Student Goal-Setting in Naiku.

## 4

Teachers and students should review these goals and compare them to actual student performance. Feedback from teachers to students, and from student to teachers is crucial in the review of performance against the goals. When students do not reach their goals, teachers must provide descriptive guidance on what they need to do next in order to reach those goals. Students must provide feedback to teachers on what and how the teacher can help them reach their goals.

Before students start to take the assessment, ask them to predict their score on the assessment. This is the next step to engaging students into the assessment process. It will also give you visibility into student expectations. For each exam that students take, ask them to predict their performance before they start to answer the questions. In Naiku, students make this prediction when they read the instructions for the test. They are instructed to move a slider between 0 and 100 to indicate how they think they will do on the exam.

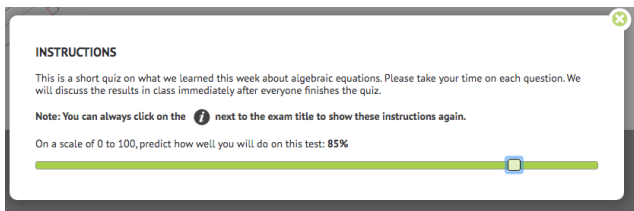


Figure 2. Test Score Prediction in Naiku.

At the end of the test when students receive their actual test result, they are presented their predicted score alongside. Comparing the predicted score to the test score allows students to reflect on and reconcile any discrepancies between their expected and actual scores. This information not only gives students insight into whether they are meeting their goals on the specific assessment, it also provides them opportunities to continually monitor their progress towards their overall mastery goals.

### During the Assessment

As students begin to take the assessment and answer the questions, ask them to provide a confidence rating for each answer. Also ask them to tell you more and show their work, explain their reasoning for the answer or their confidence rating. These better assessment techniques further engage students in the assessment process.

## How Students Can Take Control and Personalize Their Learning

In Naiku students are encouraged to rate their confidence on each question. Student confidence ratings are collected on a 3-point scale including Low, Uncertain, and High.

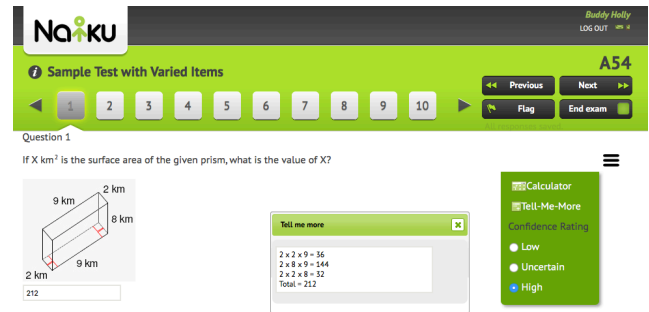


Figure 3. Confidence Prediction in Naiku.

When students predict their confidence on the answer to each question, they get multiple opportunities to develop their metacognitive skills. The extra practice is essential to developing the students' thinking about their thinking. At the conclusion of the test, it is integral to provide metacognitive feedback to the students. In Naiku, students are shown their confidence prediction and their actual performance on the question (i.e., whether they got it correct or incorrect). With this information, students can further engage in more metacognitive thinking and reflect on their performance. For example, if they rate their confidence as low but answer the question correctly, this provides more opportunities for them to reflect on the difference. The more they reflect on the discrepancy, the better understanding they will have and the better they will be at calibrating their prediction ability (i.e., they are developing their metacognitive skills).

### After the Assessment

After students finish the assessment and receive their immediate results, ask them to reflect on their performance. Ask them to reflect on and reconcile their actual performance with their prediction and confidence ratings. These self-assessment techniques help student personalize the assessment and turn it into a learning experience.

On the overall test reflection, encourage students to describe what they did well, and for the areas that they didn't do well, ask them to describe activities that they

## 5

will do to close that gap between where they are and where they want to be (their mastery goal).

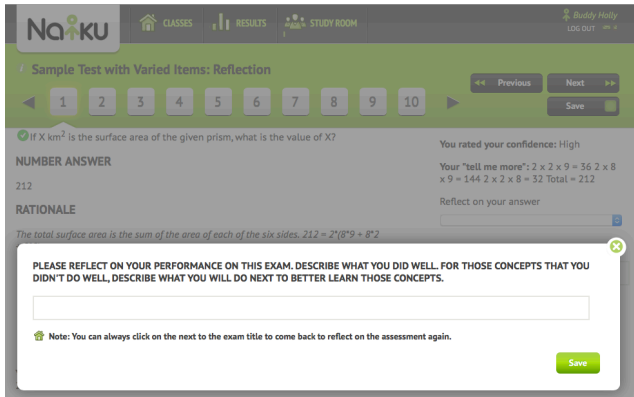


Figure 4. Test Reflection in Naiku.

After reflecting on the overall performance, also encourage students to reflect on their performance on each question. They should reconcile their confidence prediction with their performance on each item. In Naiku, students are provided with a range of “reflection tags” to select from, such as “I know and understand” and “Don’t quite understand concept.”

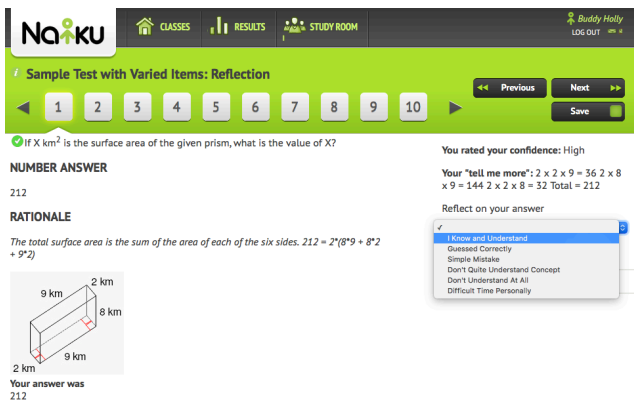


Figure 5. Item Reflection in Naiku.

Feedback that is constructive and timely is another great instructional strategy that has significant impact on student learning. In Naiku, this can be done easily by creating answer rationale for each item. For the correct answer choice, give an explanation or rationale for why it is right. Similarly, for each incorrect choice, give a rationale for why it is wrong. After students complete their test, the rationale can be given to students automatically and immediately. When done in this way,

## How Students Can Take Control and Personalize Their Learning

the rationale serves as personalized and constructive feedback that is given to each student.

Additionally, and equally important, teachers can give personalized and constructive feedback to the students based not only on their test performance, but also on their goals, their confidence ratings, and their reflections.

At Naiku, we believe that learner-centric assessment leads to better learning. Through technology and a next generation assessment platform, teachers now have the tools to empower and engage students in better assessment techniques that can turn testing into a personalized learning experience.

### Longer Term Student Success

In part 2 of this paper, we will explore how teachers can expand upon the strategies presented in this part 1 and encourage students to take control of their learning and seek help when they need it over a longer period. By helping students understand and internalize overall learning expectations, establish appropriate goals, and easily view and assess their progress relative to those goals, students are motivated to learn and can advocate for help as needed. Well defined curriculum maps, color-coded longitudinal proficiency charts, and other tools independently accessible by the students can be used to achieve this.

### About the Author

Adisack Nhouyvanisvong has spent his career devoted to improving student learning through better assessment theories and practices. He has taught graduate courses on assessment practice and theory. He is the author, co-author, and/or presenter of numerous papers and presentations on the subject of educational assessment and has ensured the psychometric integrity and soundness of various assessments while at the Minnesota State Department of Education, Data Recognition, and Pearson. He received his Ph.D. in Cognitive Psychology from Carnegie Mellon.