Knowles Teacher Initiative Student Perceptions Survey

What is the student perceptions survey?

The survey has 34 multiple choice items that ask students about their perceptions of themselves as math/science learners and their classroom environment. The questions were selected/adapted from three nationally validated student surveys that have been shown to predict student performance:

- Panorama: Developed by researchers at Harvard Graduate School of Education
- TIMMS: Developed by the US National Center for Education Statistics for the Trends in International Mathematics and Science Study which has collected data from US and international students in grades 4 and 8 since 1995 every 4 years.
- Carnegie Pathways: Developed by the Carnegie Foundation for the Advancement of Teaching and WestEd as part of evaluating Carnegie's Pathways programs that support community college students' success in developmental mathematics.

Each question on the survey is associated with a scale which measures a category (e.g., growth mindset) shown to positively impact student performance in mathematics and/or science. For each question, students choose the answer from five possible responses that best fits their perceptions of themselves or the classroom environment. The survey was tested for reliability and validity in Knowles Fellows' and other teachers' classrooms so you can trust that responses are consistent and that the items are measuring what they intend to measure.

Why would teachers collect these data from their students?

- Students' responses can help teachers identify areas of strengths or concerns from their students' perspectives and see what they might want to explore further. For example, a teacher might see that there are some students in their class who feel less confident about math and science than others and investigate what they might do to better support them.
- Many Fellows who used the survey found it useful for improving their teaching. Some of them gave the entire survey, or some portion of it, on their own or with their department, grade level team, or PLC to find out more about classroom culture and set goals for improvement. For example, one teacher wrote: "[The survey results] gave me a goal for this year- to work on bringing more relevance and challenges to my classroom."

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Introduction to survey for students

Welcome!
This is NOT a test! It is an opinion survey. I am asking you for your thoughts and opinions about this class and being a student in this class so that we can make this class better for all of us.

There are no right or wrong answers. Different people have different ideas about all of these things. It is very important that you give your own opinion - not what someone else told you to think.
No one will know what your answers are except you. If you have questions about anything, feel free to ask for help.

Survey Items and scales

#	Item	Response Choices (Value= 5 to 1)	Scale	Scale Explanation
1	Overall, how much do you feel like you belong in this class?	Completely belong Belong quite a bit Belong somewhat Belong a little bit Do not belong at all	Classroom belonging	How much students feel that they are valued members of the classroom community.
2	How much do you like the ways you learn in this class ?	Extremely Quite a bit Somewhat Slightly Not at all	Captivate	A class that engages students with interesting, relevant, and enjoyable lessons.
3	How comfortable are you asking questions in this class when you don't understand something?	Extremely comfortable Quite comfortable Somewhat comfortable Slightly comfortable Not at all comfortable	Clarify	A class that includes a variety of explanations, frequent checks for understanding, and useful feedback.
4	How often are students in this class expected to explain more about the answers they give?	Almost always Frequently Sometimes Once in awhile Almost never	Challenge	A class that supports high academic standards and student persistence.
5	Overall, how much do you learn in this class each day?	A great amount Quite a bit Some A little bit Almost nothing	Challenge	A class that supports high academic standards and student persistence.
6	How much has being in this class helped you become a better thinker?	Extremely Quite a bit Somewhat Slightly Not at all	Challenge	A class that supports high academic standards and student persistence.
7	Overall, how hard do you have to think about the work you do in this class?	Extremely Quite a bit Somewhat Slightly Not at all	Challenge	A class that supports high academic standards and student persistence.

#	Item	Response Choices (Value= 5 to 1)	Scale	Scale Explanation
8	How often in this class do things get explained in several ways to make sure everyone understands?	Almost always Frequently Sometimes Once in awhile Almost never	Clarify	A class that includes a variety of explanations, frequent checks for understanding, and useful feedback.
9	How often do you get to decide how activities are done in this class?	Almost always Frequently Sometimes Once in awhile Almost never	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
10	How often do students have time to explain their ideas in this class?	Almost always Frequently Sometimes Once in awhile Almost never	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
11	How much respect do your ideas and suggestions get in this class?	A great amount of respect Quite a bit of respect Some respect A little bit of respect Almost no respect at all	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
12	How often do students get to share their ideas with each other in this class?	Almost always Frequently Sometimes Once in awhile Almost never	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
13	How much do students speak up and share their ideas about the work in this class?	A great amount Quite a bit Some A little bit Not at all	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
14	How much is this a class where you get to test out your ideas and see if they work?	A great amount Quite a bit Some A little bit Not at all	Student agency	A classroom culture that seeks and values students' ideas, thoughts, and input.
15	How difficult is math/science for you compared with other students in this class?	Much less difficult for me Slightly less difficult for me About the same difficulty for me Slightly more difficult for me Much more difficult for me	Confident in math/science	How confident students feel about their math/science abilities.
16	How good are you at working out difficult math/science problems?	Extremely good Quite good Somewhat good Slightly good Not good at all	Confident in math/science	How confident students feel about their math/science abilities.

#	Item	Response Choices (Value= 5 to 1)	Scale	Scale Explanation
17	How difficult is math/science for you compared with other subjects?	Much less difficult for me Slightly less difficult for me About the same difficulty for me Slightly more difficult for me Much more difficult for me	Confident in math/science	How confident students feel about their math/science abilities.
18	How quickly do you tend to learn things in math/science?	Extremely quickly Quite quickly Somewhat quickly A little bit quickly Not quickly at all	Confident in math/science	How confident students feel about their math/science abilities.
19	How would you rate math/science in terms of your strengths?	A great strength Quite a strength Somewhat of a strength A slight strength Not at all a strength	Confident in math/science	How confident students feel about their math/science abilities.
20	How well do you usually do in math/science?	Extremely well Quite well Somewhat well Slightly well Not very well at all	Confident in math/science	How confident students feel about their math/science abilities.
21	How often do you get helpful comments in this class that let you know what you did wrong on assignments?	Almost always Frequently Sometimes Once in awhile Almost never	Consolidate	A class that supports students in organizing content and making connections in ways that make it easier to remember and build upon over time.
22	How often do you get feedback on your work in this class that helps you learn?	Almost always Frequently Sometimes Once in awhile Almost never	Clarify	A class that includes a variety of explanations, frequent checks for understanding, and useful feedback.
23	How interesting do you find the things you learn in math/science?	Extremely interesting Quite interesting Somewhat interesting A little bit interesting Not at all interesting	Valuing of subject	How much students feel that an academic subject is interesting, important and useful.
24	How excited are you about going to this class?	Extremely excited Quite excited Somewhat excited A little bit excited Not at all excited	Classroom engagement	How attentive and invested students are in class.
25	Overall, how interested are you in this class?	Extremely interested Quite interested Somewhat interested A little bit interested Not at all interested	Classroom engagement	How attentive and invested students are in class.

#	Item	Response Choices (Value= 5 to 1)	Scale	Scale Explanation
26	How confident are you that you can choose an effective strategy to get your work for this class done well?	Extremely confident Quite confident Somewhat confident A little bit confident Not at all confident	Classroom learning strategies	How well students deliberately use strategies to manage their own learning processes in class.
27	Whether a person does well or poorly in math/science may depend on a lot of different things. You may feel that some of these things are easier for you to change than others. In math/science, how possible is it for you to change your level of intelligence?	Completely possible to change Quite possible to change Somewhat possible to change A little possible to change Not at all possible to change	Classroom mindset	Perceptions of whether students have the potential to change those factors that are central to their performance in class.
28	How important is it for you to learn in this class so you can make a difference for other people one day?	Extremely important Quite important Somewhat important A little bit important Not important at all	Mindset about course value	How much students value this math or science course.
29	How useful do you think this class will be to you in the future?	Extremely useful Quite useful Somewhat useful A little bit useful Not useful at all	Valuing of subject	How much students feel that an academic subject is interesting, important and useful.
30	How often do you use ideas from this class in your daily life?	Almost always Frequently Sometimes Once in awhile Almost never	Valuing of subject	How much students feel that an academic subject is interesting, important and useful.
31	How much does being in this class make you want to give your best effort?	A great amount Quite a bit Some A little bit Not at all	Motivate	Students want to do well in this class.
32	How smart do you feel when you are in this class?	Extremely smart Quite smart Somewhat smart A little bit smart Not smart at all	Motivate	Students want to do well in this class.
33	When you feel like giving up on a difficult task in this class, how likely is it that you will keep trying?	Extremely likely Quite likely Somewhat likely A little bit likely Not at all likely	Persistence	Students continue to work through challenges in this class.

#	Item	Response Choices (Value= 5 to 1)	Scale	Scale Explanation
34	How important is it to you to do well in math/science classes?	Extremely important Quite important Somewhat important A little bit important Not important at all	Valuing of subject	How much students feel that an academic subject is interesting, important and useful.

Distributing and Scoring the Survey

In order to support administering and scoring the survey, we've developed some guidelines and resources to make things easier.

Distribution: Students may complete electronically through the provided Google form or teachers may print the google form so students can complete it anonymously on paper. If you want to collect demographic information or have students identify themselves, ensure you have the appropriate permissions required by your school for student surveys. There are separate surveys for math and science. If you would like other language versions than English, please contact us at helpdesk@knowlesteachers.org. We have Arabic, Simplified Chinese, Spanish, and Vietnamese language versions. **Note:* The links to the math and science surveys will allow you to make a personal copy that you can edit for your own use.*

Scoring the survey: Teachers can use this Google sheets workbook to score the survey. Detailed instructions are below.

Step 1: Get Your Response Data

1. In your Google Form, go to the **Responses** tab
2. Click **"View in Sheets"** - this will create a spreadsheet with all the response data
3. **Copy all the response data** from this Google Sheets file

Step 2: Convert Text Responses to Numbers

1. Go to **Tab 5 (Response Recoding Macro)** in your scoring spreadsheet
2. **Paste your raw Google Form responses** into Tab 5
3. Go to **Extensions > Macros > SPall**
4. Run the SPall macro - **it will automatically recode all text responses to numerical values (1-5)**
    - This handles all the different response scales in the survey automatically

Step 3: Enter Data for Analysis

1. Go to **Tab 4 (Raw Data)**
2. **If you have more students than rows available**: Right-click and insert additional rows above the existing data rows
3. **Copy the recoded numerical data** from Tab 5 and paste into the appropriate columns in Tab 4
4. The formulas in Tab 4 will automatically calculate results

Step 4: Update Summary Tabs After entering your data in Tab 4, you'll need to manually copy the calculated results:

- Copy relevant results from Tab 4 to **Tab 2 (Overall Results)**
- Copy relevant results from Tab 4 to **Tab 3 (Item-by-Item Results)**

Understanding the Metrics

- **Average**: The mean response across items (1-5 scale)
- **%4s & 5s ("Top Box")**: Percentage of responses that were 4 or 5
- We use both metrics because averages can be skewed by outliers, while top box percentages show the proportion of positive responses

Important Note: Results can be analyzed for all students combined or by individual class periods. However, **be cautious interpreting differences in small classes** - variations may not be statistically meaningful.

Navigating the Five Tabs

Tab 1 - Survey Overview: Describes each survey item, response options, what each item measures, and explains the measurement scales.

Tab 2 - Overall Results: Shows results across all survey items, plus a breakdown showing how many students fall into different performance ranges. **Copy these results from Tab 4 after data entry.**

Tab 3 - Item-by-Item Results: Displays average scores and %4s & 5s for each individual survey question, organized by theme/scale. **Copy these results from Tab 4 after data entry.**

Tab 4 - Raw Data & Calculations: **This is where you enter your recoded numerical data.** Contains all formulas and calculations. Individual student averages appear in column AJ, individual %4s & 5s in column AP. Also includes statistics by class period.

Tab 5 - Response Recoding Macro: **Start here after getting your Google Form data!** Paste your raw responses, then run the SPall macro (Extensions > Macros > SPall) to automatically convert all text responses to numerical values for analysis.

Interpreting Your Results

The spreadsheet uses color coding to highlight patterns:

- **Pay attention to GREEN areas** - these represent strengths to celebrate and leverage
- Don't focus only on yellow, orange, or pink areas (areas for growth)
- **Notice the range in individual student responses** - consider why some students may perceive your class differently than others

Key Tip: As educators, we often focus on problems to fix. Make sure to also identify what's working well - these strengths can often be applied to improve other areas.