

Measuring Student Creativity: Perceptions and Behaviors

Overview

In collaboration with BetterLesson, The Learning Accelerator (TLA) developed a 17-question survey to understand students' perceptions about creativity as well as the behaviors that they enact in school. For this survey, we define creativity defined as:

The competence to leverage self-interests, motivation, imagination, and prior knowledge in flexible ways¹ to generate, evaluate, or improve ideas; imagine new ways of solving problems;² forge new connections — across content and people;³ create new understanding; or communicate thinking through writing, drawing, voice, music, or any other means of expression.⁴

To measure creativity, we broke the overarching theory into four separate domains based on the 4Ps of Creativity⁵: person, press, process, and product. The process dimension was then divided into specific constructs: creative communication, creative problem-solving, and creative thinking.

Survey Instrument

The questions below can be disseminated to educators using an online survey such as Qualtrics, Survey Monkey, or Google/Microsoft Forms.

Sample Introduction Text

The goal of this survey is to understand more about the kinds of opportunities that you have in this class and what you think about creativity. This survey will ask you about your thoughts and experiences related to creativity.

Participation in this survey is voluntary and anonymous. You do not have to complete it, and no one will know your answers.

¹ Hatano, G., & Inagaki, K. (1986). Two courses of expertise. In H. Stevenson, H. Azuma, & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 262–272). New York, NY: Freeman.

² Gallup. (2019). *Creativity in Learning*.

<https://www.gallup.com/education/267449/creativity-learning-transformative-technology-gallup-report-2019.aspx>

³ OECD. (2021). *PISA 2021 Creative Thinking Framework*.

<https://www.oecd.org/pisa/publications/PISA-2021-creative-thinking-framework.pdf>

⁴ Gregory, E., Hardiman, M., Yarmolinskaya, J., Rinne, L. & Limb, C. (2013). Building creative thinking in the classroom: From research to practice. *International Journal of Educational Research*, 62, 43–50.

⁵ Rhodes, M. (1961). An Analysis of Creativity. *The Phi Delta Kappan*, 42(7), 305–310.

<http://www.jstor.org/stable/20342603>

If you have any questions or concerns about this survey, you can contact ____
(your@email.address).

Survey Questions

1. What is the name of the teacher who asked you to take this survey?
This question is optional. School or district leaders may choose to include it either as an open-response or multiple choice question depending on whether they want to look at the data by classroom.
2. For the following questions, please indicate your level of agreement: *Strongly Disagree, Disagree, I'm Not Sure, Agree, Strongly Agree*
 - I am not afraid to express my ideas.
 - I try to do things others think are difficult.
 - I can get better at being creative.
 - I like making ideas come to life no matter how many tries it takes.
3. For the following questions, please indicate your level of agreement: *Strongly Disagree, Disagree, I'm Not Sure, Agree, Strongly Agree*
 - I want to work on class projects that allow me to create things that will help people.
 - I want to work on class projects that allow me to create things that are important to me.
 - I can create things that help others.
4. Please indicate how often you do each of the things written in the statements below:
Never, Sometimes, I'm Not Sure, Often, All the Time
 - I like to look at problems from different angles (perspectives).
 - When I express curiosity about a problem, my teacher encourages me to learn more about it.
 - My teacher praises me for combining ideas in ways others haven't tried.
 - My teacher shows me how to find a solution with other available resources if a certain resource is not available.

5. Please indicate how often you do each of the things written in the statements below:
Never, Sometimes, I'm Not Sure, Often, All the Time

- My teacher allows me to show my creativity in my classwork.
- My teacher rewards me for showing my ideas in digital form.
- My teacher praises me when I carefully select media that demonstrate what I know.
- I like to show new ideas through various digital media.
- My teacher allows me to create things that are important to me.
- My classwork allows me to create new digital products.

Survey Analysis

At this time, we recommend taking a descriptive approach to survey analysis and only making comparisons within dimensions, sub-dimensions, and levels.

The questions are aligned to the *4Ps* dimensions⁶: *Person, Press, Process, and Product*. The *Process* dimension then includes three constructs or sub-dimensions — *Creative Communication, Creative Problem-Solving, and Creative Thinking*. Across these domains, the questions then address either student *perceptions* or *behaviors*. The tables below illustrate how the questions are organized and the associated Likert scale.

Dimension 1 - Person

The Creative Person dimension is defined as the mindsets of the creative person. The student survey then measures mindsets that facilitate their creativity. These questions all measure perceptions using the agreement Likert scale.

1 = Strongly Disagree, 2 = Disagree, 3 = I'm Not Sure, 4 = Agree, 5 = Strongly Agree

⁶ Lehmkuhl, G., Gress Von Wangenheim, C., Martins-Pacheco, L. H., F Borgatto, A., & da Cruz Alves, N. (2022). SCORE—A model for the self-assessment of creativity skills in the context of computing education in K-12. *Informatics in Education*, 20(2), 231-254. <https://files.eric.ed.gov/fulltext/EJ1301324.pdf> ; Rhodes, M. (1961). An Analysis of Creativity. *The Phi Delta Kappan*, 42(7), 305–310. <http://www.jstor.org/stable/20342603>

Question Text

I am not afraid to express my ideas.

I try to do things others think are difficult.

I can get better at being creative.

I like making ideas come to life no matter how many tries it takes.

Dimension 2 - Press

The Creative Press dimension refers to the contextual, environmental, cultural, linguistic, and social factors and how the creative person interacts with and perceives the relevance of these factors that influence their imagination, a sense of purpose, and curiosities. These questions all measure students' perceptions.

1 = Strongly Disagree, 2 = Disagree, 3 = I'm Not Sure, 4 = Agree, 5 = Strongly Agree

Question Text

I want to work on class projects that allow me to create things that will help people.

I want to work on class projects that allow me to create things that are important to me.

I can create things that help others.

Dimension 3 - Process

The Creative Process dimension involves the generative behaviors that engage one's "motivation, perception, learning, thinking, and communicating." Process, therefore, represents students' creative process and, more specifically, how instructional experiences and learning facilitate that process. The first three questions measure the sub-dimension of *creative thinking* and the last addresses *creative problem-solving*.

1 = Never, 2 = Sometimes, 3 = I'm Not Sure, 4 = Often, 5 = All the Time

Question Text

I like to look at problems from different angles (perspectives).

When I express curiosity about a problem, my teacher encourages me to learn more about it.

My teacher praises me for combining ideas in ways others haven't tried.

My teacher shows me how to find a solution with other available resources if a certain resource is not available.

Dimension 4 - Product

The Creative Product is the physical representation of creative ideas. In this context, we want to measure students' behaviors and experiences toward developing products that represent their novel ideas.

1 = Never, 2 = Sometimes, 3 = I'm Not Sure, 4 = Often, 5 = All the Time

Question Text

My teacher allows me to show my creativity in my classwork.

My teacher rewards me for showing my ideas in digital form.

My teacher praises me when I carefully select media that demonstrate what I know.

I like to show new ideas through various digital media.

My teacher allows me to create things that are important to me.

My classwork allows me to create new digital products.