Agency



The capacity to make intentional choices and to understand that you have such a capacity. With agency, you see yourself as a contributor and an agent of change in the world surrounding you.

A person with agency may say:

"I set my own goals and work hard to achieve them."

"I evaluate my own performances and make adjustments to perform better."

"I find opportunities to bring my voice and style to make a positive contribution to others."

A person without agency may say:

"I have done only what teachers have asked me to do."

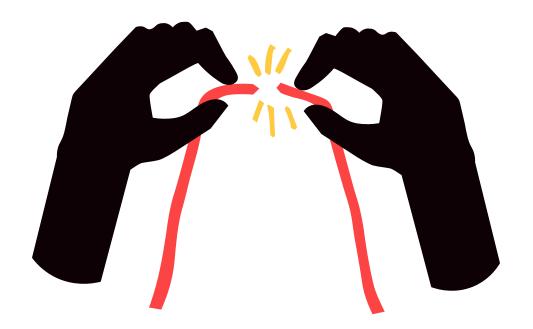








Troubleshooting



A capacity to persist and to find solutions. If a project is not progressing as expected, you can use different strategies to diagnose and fix the problem. Not giving up requires patience, resilience, and resourcefulness as well as an investment in what you are working on.

A person who troubleshoots may say:

"I do not give up when something worked differently from what I expected."

"I break down the problem and find reasons why this unexpectedly happened"

A person who does not troubleshoot may say:

"This does not work. I cannot do this anymore."





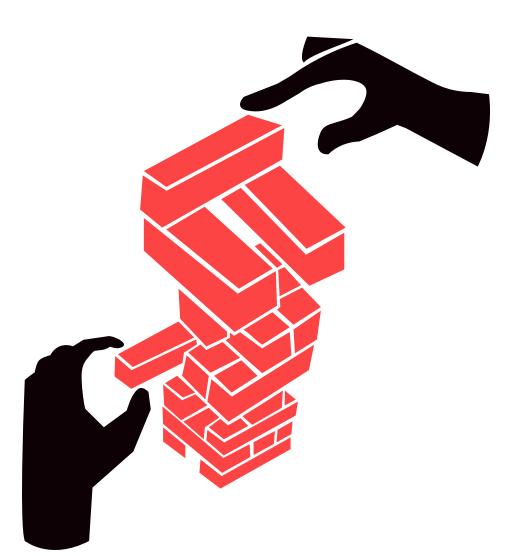






This tool was created in collaboration with Albemarle County School District, Portola Valley School District, and San Mateo County Office of Education. This material is based upon work supported by the National Science Foundation under Grant #1723459. It is released

Productive Risk-taking



To try an idea or a solution beyond your comfort zone. Even when an action ends in an unexpected way, you can identify lessons learned and connect it to the next iteration or future projects.

A person who takes productive risks may say:

"I tinker with a variety of materials rather than only those I have used before."

"I set a stretch goal that is beyond what I have tried before."

"I build a hypothesis and experiment to test it, even though it may fail."

A person who does not take productive risks may say:

"I'm afraid to try that because I'm not familiar with it."



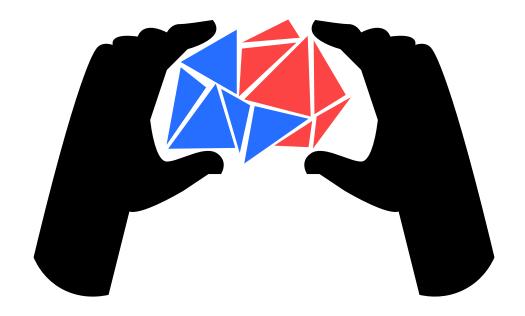








Bridging Knowledge



A capacity to use knowledge from your lived experiences at home, community, and culture as well as from out-of-school experiences and other subject areas to benefit the project you are working on. You may draw connections between the themes and ideas of the project and past experiences or future challenges.

A person who bridges knowledge may say:

"I use knowledge and experiences that I learned in other subjects or activities at school for my work."

"I bring in my experiences outside school, in my family, and community by connecting them to what I do in a classroom."

A person who does not bridge knowledge may say:

"I don't see how this is meaningful for my own life."





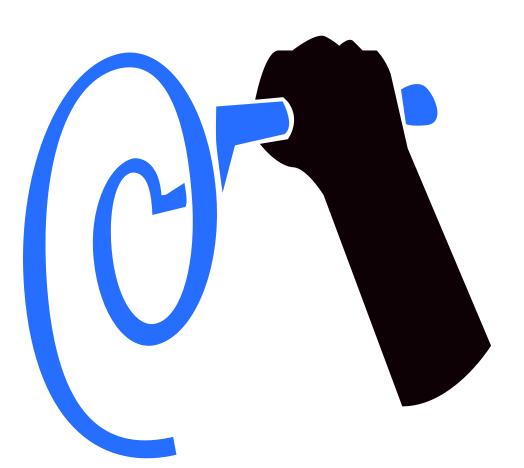






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Design Process



A way to approach challenges by brainstorming, prototyping, testing, and iterating. Designers are aware of the many steps to reach a solution and deliberately work on each step to improve a design.

A person who uses a design process may say:

"I carefully study and understand the challenges, and brainstorm solutions to address it."

"I break down the idea into steps and make progress one step at a time."

"I get feedback and iterate the design based on the feedback."

A person who does not use a design process may say:

"I created this idea but I don't know how to test if this works."









Content Knowledge



You may develop stronger conceptual understanding, be able to accurately understand why this do or do not work, or be able to use materials in safe and effective ways.

A person who is building content knowledge may say:

"I can select the right tools, frameworks, or formulas that help me solve a challenge I am facing."

"I can safely and effectively use the tools, frameworks, formulas to achieve my own goal."

A person who is not building content knowledge may say:

"My project worked but don't know why it worked."

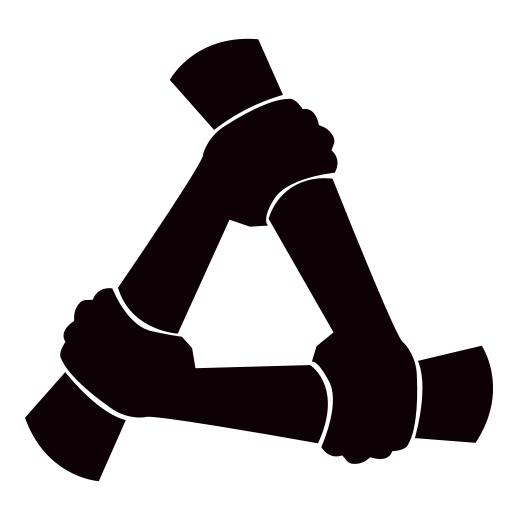








Social Scaffolding



The capacity to support and be supported by others by asking for help, giving feedback, sharing tips and tricks, or building on and remixing each other's work, even if you are working on different projects.

A person who engages in social scaffolding may say:

"I openly ask for help when I am stuck."

"I share tips and tricks that I found to help others."

"I give constructive feedback to others."

"I recognize values in other people's ideas and build off of them by remixing."

A person who *does not engage* in social scaffolding may say:

"I don't need anybody's help. I can do everything on my own."









