A Suite of Tools for Educators and Students:

Documenting and Evaluating Creativity in Making

Creative Making Environment (Students)
Creative Self-efficacy (Students)
Creative Mindset (Students)
Creative Making Environment (Educators)

Funded by

Creative Making Environment

Motivation – the basic orientation of the school/organization toward innovation; providing rewards and recognition.

Resources – everything the school/organization has available to aid in the area targeted for innovation, including time, funding, information and materials.

Practices – allowing freedom and autonomy in making; providing challenge.

Creative Making Environment (STUDENTS)

Please use the options below to rate how well each item describes your current making environment. *Strongly disagree = 1, Disagree= 2, Agree = 3, Strongly Agree=4.*

Freedom: Deciding what to make or how to do it; a sense of control over one's project

1. I am usually instructed what to make and how to do it.
2. I have the Freedom to decide what to make and how to do it.
3. I feel little Pressure to meet someone else's specifications in what to make or how to do it.
4. In my current making environment, I feel a Sense of Control over my own project and my own idea.

Challenging Work: A sense of having to work hard on challenging tasks and important projects

5.1. I feel that I am Making Something Important.
5.2. I feel that I am Making Something Meaningful.
6. Making projects bring out the Best in Me.
7. I feel Challenged by my last maker project.

Encouragement: A teacher or program director sets goals appropriately, and shows confidence in individuals or the work group

8. The Expectations for my making projects are Clear.
9. I am expected to make something Creative.
10. My teacher or the making program director is Open to New Ideas.
11. My teacher or the making program director shows Confidence in me when I work on my project.
12. I get constructive Feedback from my teacher when I work on my project.

Group Supports (if applicable): A diversely skilled group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing.

13. My teacher or the making program director usually encourages me to make something On My Own.
14. We usually need to Work in Groups to complete a making project.
15. My teammates and I make a Good Team.
16. Within my group, we Challenge each other's Ideas in a constructive way.
17. People in my group are Open to new Ideas.
18. In my group, people are willing to Help Each Other.
19. The people in my group are Committed to our making project.
20. There is free and Open Communication within my group.

Organizational Encouragement: An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas.

21. I am usually encouraged to Solve Problems Creatively in the making program I participate in.
22. Creative Ideas are encouraged in the making program I participate in.
23. I am generally encouraged to Take Risks in the making program I participate in.
24. People in this making program can Express unusual Ideas without the fear of being called stupid.
25. Failure is Acceptable in this making program, if the effort on the project was good.
26. I am Recognized for Creative work in this making program.
27. I am Rewarded for Creative work in this making program.
28. There is an Open Atmosphere in this making program.
29. If I want to make something that is very creative and challenging, I will be encouraged to focus on something else that is more doable.

Lack of Organizational Impediments: An organizational culture that does not impede creativity through harsh criticism of new ideas, and avoidance of risk

30. People are Critical of New Ideas in this making program.
31. Destructive Criticism is a problem in this making program.
32. Students in this making program are generally concerned about Negative Criticism of their work in this making program.
33. I Do Not feel Pressure to make anything acceptable.

Sufficient Resources: Access to appropriate resources, including materials, facilities, and information

34. The Facilities I need for my making project are readily Available to me.
35. Generally, I can get the Resources I need for my making projects.
36. I am able to easily get the Materials I need to do my making projects.
37. The Information I need for my making projects is easily accessible.
38. If I need Additional Support (e.g., additional materials, tools, or advice from experts) to complete my making projects, I can submit my request to my teacher or the making program director.
39. I have Sufficient Time to do my making project.
40. I do Not feel a sense of Time Pressure when I make something.
41. If I need more time to complete my project, I will be allowed to continue to work on it next time.

Creativity

42. Overall, my current making environment is conducive to My Own Creativity.
43. A Great deal of Creativity is called for in the making program I participate in.
44. I believe that I am currently very Creative in my work.
45. This is the first making program I have participated in.
46. I have participated in a few making programs in the past 5 years.

Creative Self-efficacy (STUDENTS)

Please use the options below to rate how well each item describes your current making environment. *Strongly disagree = 1, Disagree= 2, Agree = 3, Strongly Agree=4.*

1. I am good at coming up with new ideas when working on my maker projects.
2. I have a lot of good ideas.
3. I have a good imagination.
4. I am good at coming up with new ways to solve problems.
5. I think outside the box.
6. I am a creative person.
7. I am an original thinker.
8. My friends think I am creative.
9. My teachers tell me I am creative.

Creative Mindset (STUDENTS)

Please use the options below to rate how well each item describes your current making environment. *Strongly disagree = 1, Disagree= 2, Agree = 3, Strongly Agree=4.*

1. Some people are creative, others aren't—and no practice can change it.
2. Everyone can create something great at some point if he or she is given appropriate conditions (e.g., resources).
3. You either are creative or you are not—even trying very hard you cannot change much.
4. Creativity can be developed, but one either is or is not a truly creative person.
5. It doesn't matter what creativity level an individual reveals—you can always increase it.

Please answer the following questions:

List the top three words that describe your making program.

List the top three words that relate to creativity.

What is "creativity"? Please define creativity using your own words.

If someone is described as a "creative maker", what would that mean to you?

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Creative Making Environment (EDUCATORS)

Please use the options below to rate how well each item describes the making program(s) you have participated in as an educator. *Strongly disagree = 1, Disagree= 2, Agree = 3, Strongly Agree=4.*

Freedom: Deciding what to make or how to do it; a sense of control over one's project
1. I usually specify exactly what students are allowed to make and how to make it.
2. Students can decide what to make and how to make it.
3. I have certain specifications that I expect students to incorporate in their projects.
4. I provide students with a lot of guidance when they are working on their projects.

Challenging Work: A sense of having to work hard on challenging tasks and important projects
5. I usually make students feel that they are making something important.
6. The making projects bring out the best effort from students.
7. Students usually feel challenged by the projects they are working on.

Managerial Encouragement: A teacher or program director sets goals appropriately, and shows confidence in individuals or the work group
8. I always make sure students understand clearly my expectations for their making projects.
9. Students understand that they are expected to be creative in these projects.
10. I am open to new ideas for projects from my students.
11. I show confidence in students when they are working on their project.
12. I give constructive feedback to students as they work on their project.

Group Supports (if applicable): A diversely skilled group in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other, and feel committed to the work they are doing.

13. I encourage students to make something on their own.
14. I usually ask students to work in groups to complete a making project.
15. Students perform well when working together as a team.
16. I encourage students to challenge each other's ideas in a constructive way.
17. I encourage students to listen to new ideas of others in the group.
18. I encourage students to help each other in their group.
19. Students in their group show commitment to completing the making projects.
20. Students feel comfortable expressing their own ideas and are open to listening to others' ideas within their group.

Organizational Encouragement: An organizational culture that encourages creativity through the fair, constructive judgment of ideas; reward and recognition for creative work; mechanisms for developing new ideas.

21. I encourage students to be creative when solving problems.
22. I encourage students to come up with new ideas in the program.
23. I encourage students to take risks in their making program.
24. Students feel comfortable coming up with and then expressing ideas that are "outside the box".
25. Students know that failure is acceptable as long as they have tried their best.
26. I usually recognize students when they perform creatively in the program.
27. I usually reward students in some way when they perform creatively in the program.
28. Students feel that there is a welcoming and accepting atmosphere from other students in their making program.
29. If students are working on a project that I feel may be too challenging or creative, I usually encourage them to try something that is more doable.

Lack of Organizational Impediments: An organizational culture that does not impede creativity through harsh criticism of new ideas, and avoidance of risk

30. Criticism of new ideas is discouraged in this making program.
31. Negative criticism of students' work is discouraged in this making program.
32. Students do not feel that they have to create something that meets even a minimum standard of quality.

Sufficient Resources: Access to appropriate resources, including materials, facilities, and information

33. The facilities students need for their making projects are readily available to them.
34. Students have access to sufficient and appropriate sources of knowledge (either reference materials, tools, or a knowledgeable other) necessary for their making projects.
35. Students have ready access to the physical materials needed to do their making projects.

36. Students can easily receive adequate instruction and guidelines so that their making projects are doable.

37. If students need additional support (e.g., additional materials, tools, or advice from experts) to complete their making project, they can submit their request to me or another person who is in charge of the making program.

38. Students are given enough time to complete their making project.

39. Students do not feel a sense of time pressure when they are doing their making project.

40. If students need more time to complete their project, they know they will be allowed to continue to work on it at a later time.

41. Students encounter a variety of examples of projects, images, and ideas.

Creativity

42. I think the current making environment allows students to freely demonstrate their creativity.

43. Students understand that the making program requires them to be creative.

44. Student feel that the making program is a worthwhile learning experience.

45. This is the first making program that I have ever had to supervise or teach.

46. I have supervised/taught more than one making program in the past 5 years.