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Designing an Experiment for Playfulness in a Virtual Environment for Enhanced Creative Climate

Donnalyn Roxey
Buffalo State College, dtroxey@gmail.com

Advisor

Susan Keller-Mathers

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Designing an Experiment for Playfulness in a Virtual Environment for Enhanced Creative

Climate

by

Donnalyn Roxey

An Abstract of a Project

in

Creativity and Change Leadership

Submitted in Partial Fulfillment

of the Requirements

for the Degree of

Master of Science

May 2024

Buffalo State University

State University of New York

Department of Creativity and Change Leadership

ABSTRACT OF PROJECT

Designing an Experiment for Playfulness in a Virtual Environment for Enhanced Creative Climate

This project investigated the integration of playfulness into virtual workshop environments to enhance creativity and participant engagement. The initial focus was on developing an online game to encourage mind-wandering and creative expression. However, research and discussions with faculty revealed practical challenges and potential distractions associated with implementing this idea. The project pivoted towards exploring alternative interventions and ended up with two interventions for virtual workshops as well as a companion blog with practical strategies. A "wreck-it" style welcome package containing fidget toys and creative prompts was proposed for individual participants. Additionally, a modified version of an in-person activity was designed for a virtual setting, encouraging playful competition and team building. The project concludes with a call for further research and collaboration. More research is needed on the impact of practices like games, fidgeting, and doodling in virtual environments to increase fun and dynamism. Practitioners and researchers need to collaborate to design experiments, collect data, and develop virtual workshop agendas that prioritize dimensions of a creative climate. Accessibility and inclusivity also require further attention to ensure participation for everyone, regardless of potential limitations.

A handwritten signature in black ink, appearing to read "Drew", is positioned above a horizontal line.

April 29, 2024

Buffalo State University
State University of New York
Department of Creativity and Change Leadership

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Dr. Susan Keller-Mathers
Associate Professor

April 29, 2024



Donnilyn Roxey
Student

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Acknowledgments

Thank you to Andy Burnett and Stavros Michailidis for sparking my creative journey. I wouldn't be here without Dr. Erich Grotewold's yearly cajoling to get this done. A special thanks to Andy and my Knowinnovation colleagues, for their unwavering support throughout this marathon.

Ryan, I couldn't have done it without your endless encouragement and partnership. To my daughters Ella and Madeline, you've been on this ride with me since the beginning, through late nights, Post-its, glue guns, and pipe cleaners. You inspire me endlessly, thank you. My bonus family, Sydnie, Kaylee, Caleb, and Molly, thank you for jumping in with love and encouragement. Deepest gratitude to Debbie, Matt, Bryce, Ben, Dad (Tim), Jayne, David, Donna, Jesse, Danna, and Mark. I feel so thankful to have such an incredible group of humans in my corner cheering me on.

To the Jewels, even through all these years, my memories and love for you have never faded. Thank you for kicking off this quest with me. In special memory of MaryBeth Zacharias, always a cheerleader and constant inspiration, I miss you.



(The Jewels ICSC cohort 2015)

Table of Content

SECTION ONE: BACKGROUND.....	1
Project Background.....	1
Personal Motivation.....	2
SECTION TWO: PERTINENT LITERATURE AND RESOURCES.....	4
AI Guided Literature Review.....	4
Creative Climate.....	5
Playfulness	6
Virtual Environments.....	6
Mind Wandering.....	6
SECTION THREE: PROCESS PLAN.....	7
Timeline.....	8
Evaluation Plan.....	10
Accountability.....	11
SECTION FOUR: OUTCOMES.....	12
A Pivot.....	13
Blog: Practitioners of Playfulness and Dynamism.....	14
Product Pitch: Interventions at the Individual and Team level.....	15
Individual - Welcome Package.....	16
Teams: Virtual Innovation Lab Olympics.....	17
Personal Goals.....	18
SECTION FIVE: KEY LEARNINGS.....	19
Research and Training.....	19

Blog Post.....	20
Product Pitch.....	21
Evaluation.....	23
SECTION SIX: CONCLUSION.....	24
References.....	26
APPENDICES.....	28
Appendix A: Excerpt from Knowinnovation draft Blog.....	28
Appendix B: Intervention Product Pitch.....	33

List of Figures and Tables

Figure 1 GRO Academy Slides Excerpt.....	13
Figure 2 Introduction to Draft Blog.....	14
Figure 3 Slides from Pitch Document.....	16
Figure 4 Wreck this Welcome Prototype.....	17
Figure 5 Virtual Innovation Lab Olympics.....	18
Figure 6 Liquid Content Reveal.....	21
Table 1 Keywords for AI Search.....	5
Table 2 Project Timeline and Action Plan.....	8

SECTION ONE: BACKGROUND

Project Background

I would like to understand the intersection of playfulness, creative climate, and virtual spaces. There are two specific outputs for this project. One output is a blog post that summarizes my research into playfulness, creative climate, and virtual environments. This blog post will be for publication on the Knowinnovation (KI) website (<https://knowinnovation.com/blog/>). The second output is a product pitch to Knowinnovation for the creation of one playful intervention that can be implemented into a facilitated workshop. Our workshop participants are academic researchers, faculty, postdocs, and graduate students.

I have identified several personal goals that will guide my learning during this project:

- better understand playfulness as one of Ekvall's 10 dimensions of Creative Climate (1996);
- gather data and insights that contribute to the understanding of the impact of playfulness on creativity in virtual environments;
- investigate opportunities for playfulness to be intentionally integrated into virtual environments.

While working on this project and pursuing these personal goals, I hope to also gain insights into:

- the relationship between playfulness and mind wandering to uncover potential synergies that contribute to creativity, and
- possible correlations between task complexity and the effectiveness of playful interventions in virtual spaces.

These goals align with my desire to gain knowledge that goes beyond theoretical understanding so that in the future, I can translate this knowledge into practical interventions directly applicable to my workplace, fostering a more creative and inclusive virtual environment. By achieving these goals, I hope to contribute to the ongoing evolution of virtual collaboration practices.

Personal Motivation

As a practitioner of creative problem-solving sessions in both physical and virtual environments, I have observed shifts in preferences between virtual and in-person events. Virtual collaborations spiked at the beginning of COVID-19 as a means of continuity or normalness. Anecdotally, when moving KI workshops virtual we built a more inclusive space, breaking barriers for individuals facing challenges like childcare, eldercare, or accommodation needs. Inclusivity and access to the sciences are of paramount importance to my life so this was a welcome change in my work. We saw people who would normally not have the opportunity to attend one of our workshops able to participate as fully as anyone else. I have worked in science-adjacent positions my entire professional career and I am deeply passionate about ensuring that knowledge and the wonders of science are not limited to an ivory tower. It has saddened me that in 2023 and 2024, the pendulum seems to be swinging back to primarily in-person events. Within the last few years "Zoom fatigue" has been codified in our modern lexicon (Bailenson, 2021). Fauville and colleagues at Stanford University have even created a Zoom Exhaustion & Fatigue Scale (Fauville et al., 2021). These psychological factors and their downstream consequences have led to a resurgence in our practice for in-person events. Frequently when we ask clients why they want an in-person event, even though highlighting the benefits of inclusivity and accessibility in a virtual space, they tell us that virtual events are exhausting and in-person workshops are just more fun.

We know that “fun” is playfulness and that playfulness positively impacts creativity (Bateson, 2015). Proyer et al. (2018) suggest positive relationships of playfulness with activity and mental health. My passion for inclusivity and accessibility in the sciences, and deliberating engineering a creative climate drive my desire to understand how one can deliberately engineer a more playful, or “fun”, creative virtual space thereby maintaining a space open to all for participation in scientific creative problem-solving workshops.

SECTION TWO: PERTINENT LITERATURE AND RESOURCES

AI Guided Literature Review

As I tried to hone in on my specific project, I asked MicroSoft's Copilot AI to show me research that has been done in the last five years applying Ekvall's 10 dimensions of creativity to a virtual environment. Here is what Copilot told me:

The search results provided do not directly address how Ekvall's creative climate model has been applied to virtual environments within the past five years. The sources mainly focus on the general framework of Ekvall's model, its dimensions, and its significance in fostering creativity and innovation within organizations. However, they do not offer specific insights or examples of recent applications of this model in virtual settings.

Ekvall's creative climate model, as outlined in the sources, identifies ten dimensions that affect creativity in organizations. These dimensions include challenge, dynamism, playfulness, freedom, risk-taking, idea time, idea support, trust and openness, debate, and conflict. The model suggests that a supportive creative climate can enhance creative behavior and performance within an organization.

To apply Ekvall's model to virtual environments, one would need to consider how these dimensions translate into virtual work settings. This could involve examining how virtual collaboration tools and practices support or hinder the dimensions of challenge, dynamism, playfulness, freedom, risk-taking, idea time, idea support, trust and openness, debate, and conflict.

Given the lack of direct information on recent applications of Ekvall's model in virtual environments, further research would be necessary to explore how this model has been adapted or applied to virtual workspaces, including studies or case studies that specifically address this topic within the last five years (Copilot, date 03/14/24).

Zeroing in on playfulness as the dimension I wish to pursue this project, I identified several possible concepts for inspiration and knowledge, see Table 1. I then used these keywords with ChatGPT to identify a list of scholars to facilitate my literature review. After collecting the list of possible scholars, I then searched to learn about each scholar so that I could down-select to ones that seemed most applicable, and exciting, for my project. To further down select to identify the most appropriate works of the scholars that will contribute insights into my research I worked with my sounding board partner and expert in Creativity and Virtual environments, Andy Burnett, and my course instructor Dr. Sue Keller-Mathers as well as literature searches through tools like phind.com.

Table 1

Keywords for AI Search

Creative Climate
Playfulness (in the context of creative work climate)
Virtual (in the context of creativity)
Mind Wandering (in the context of creativity)

The results below represent seminal works that inspired my thinking as well as the beginnings of current research. The list should shift as I continue to dig into my topic.

Creative Climate

Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*, 5 (1), 105-123.

Ekvall G. Arvonen J. & Waldenström-Lindblad I. (1983). Creative organizational climate :

construction and validation of a measuring instrument. *Swedish Council for Management and Organizational Behaviour*.

Playfulness in the context of creative work climate

Starbuck, W. H., & Webster, J. (1991). When is play productive? *Accounting, Management, and Information Technologies* 1, 71–90.

[https://doi.org/10.1016/0959-8022\(91\)90013-5](https://doi.org/10.1016/0959-8022(91)90013-5)

Deal, T. E., & Key, M. K. (1998). *Corporate celebration: play, purpose, and profit at Work*. Berrett-Koehler Publishers.

West, S. E., Hoff, E., & Carlsson, I. (2016). Play and productivity enhancing the creative climate at workplace meetings with play cues. *American Journal of Play*, 9, 71–86.

Virtual environments in the context of creativity

Bailenson, J. N. (2021). Nonverbal overload: A theoretical argument for the causes of Zoom fatigue. *Technology, Mind, and Behavior*, 2(1). <https://doi.org/10.1037/tmb0000030>

Fauville, G., Luo, M., Queiroz, A. C. M., Bailenson, J. N., & Hancock, J. (2021). *Zoom Exhaustion & Fatigue Scale* (February 15, 2021). Available at SSRN: <https://ssrn.com/abstract=3786329> or <http://dx.doi.org/10.2139/ssrn.3786329>

Mind Wandering in the context of creativity

Csikszentmihalyi, Mihaly. (1996). *Creativity: flow and the psychology of discovery and invention*. Harper Collins Publishers.

Smallwood, J., & Schooler, J. (2015). The science of mind wandering: empirically navigating the stream of consciousness. *Annual Review of Psychology*, 66:487-518.

<https://doi.org/10.1146/annurev-psych-010814-015331>

Seli, P., Risko, E. F., Smilek, D., & Schacter, D. L. (2016). Mind-Wandering with and without

intention. *Trends in cognitive sciences*, 20(8), 605–617.

<https://doi.org/10.1016/j.tics.2016.05.010>

SECTION THREE: PROCESS PLAN

I will write a blog post to summarize key learnings at the intersections of play, creative problem-solving, and virtual climate. This blog post would highlight possible learnings such as challenges and opportunities for play in virtual climates, possible play-based interventions grounded in research, or the importance of play in creative problem-solving. This blog will serve to demonstrate the knowledge I have attained via my learning goals.

The completion of this blog will provide the necessary background and rationale for the development of one product pitch for a playful intervention that Knowinnovation might prototype in a virtual workshop. This pitch would be for a game, toy, or related activity to be added to a virtual workshop to enhance the playfulness of the creative climate. This pitch represents the completion of my Master's project.

Timeline

A detailed description of the timeline for this project is provided in Table 2.

Table 2

Project Timeline and Action Plan

Activity	Date
Download, read, and highlight all course material	January 4
Meet with the Course Instructor	January 5
Clarify Ideas and create a Concept Paper outline	January 13
Meeting with sounding board partner, what I see myself doing..	January 18
Incorporate feedback and continue to edit concept paper	January 20

Meet with sounding board partner regarding concept paper	February 1
Research, Draft Concept paper	February 3
Submit Draft to Sounding Board	February 4
Incorporate feedback and continue to edit the Concept paper	February 5
Draft Concept Paper Review	February 7
Research	February 10
Concept Paper Due	February 12
Meet with the Course instructor	February 14
Research creative virtual environments	February 17
Project Direction: Watch Recording	February 21
Meet with sounding board partner regarding sections 1-3	March 14
Research creative climate	March 16
GRO Academy prep	March 20
Draft Blog Post	March 22
Update Sections 1 & 3	March 23
Update Section 2 and complete draft	March 24
Submit sections 1-3	March 24

Research and draft sections 4-6	March 25
OSU GRO Academy	March 29
Research, Draft Blog post	April 6
Draft Pitch deck	April 7
Meet with sounding board partner regarding sections 4-6	April 11
Finalize sections 4-6	April 13
Write blog post	April 14
Sounding board check in	April 20
Submit sections 4-6	April 23
Document Review	April 24
Incorporate feedback	April 26
Final Sounding board meeting	April 27
Finalize Master write up	April 27
Submit Entire Project	April 27

Evaluation Plan

I am driven by a belief in diversity, inclusion, and the cost-effectiveness of virtual workshops. This Master's Project is the first critical step toward my vision of making virtual

workshops as enjoyable as in-person events. I am resolved to overcome challenges and redefine traditional models for facilitated workshops so that I can contribute in any small way to making science more accessible to a greater audience. Evaluation for self-learning, reflection, and change is difficult. Below I outline a few ways I will know I am making progress and how I will hold myself accountable throughout this semester.

Evaluation for my project may take various paths. I propose to collaborate with colleagues at Knowinnovation to design an experiment that may be implemented in a workshop. While the implementation of this design is not in the scope of this project I will be working closely with Andy Burnett, CEO and Founder of Knowinnovation throughout the process to engineer the design with KI specificity in mind. I will submit a pitch document outlining the potential experiment as part of my project. One evaluation metric would be the green light for prototyping the plan for testing within a KI event. We already understand the need for an intervention into the playfulness of the virtual creative climate however for KI to agree to a prototype I would need to demonstrate the proof of concept and provide the contextual support as to why I think it would create the change. KI is a science-based consulting organization and as such my work must have research rigor for the understanding of playfulness and creativity in a virtual climate. I must establish with data and informed insights why I believe my design will be a success for KI to invest in the green light. To present my learning I will write a blog post for publication on the Knowinnovation website. This publication would be another way of evaluating the learning I am undertaking.

Accountability

I am going to get this project done. This semester. Done. Having started and stopped this course multiple times forced me to take a serious look at my life to ensure that now was the right time for me to finish and what continually held me back. I am implementing several strategies to mitigate my tendencies for procrastination, task jumping, a busy schedule, etc.

First, I paid for a coworking membership in a space in downtown Columbus. I set aside time every Saturday to treat myself to a delicious vegan breakfast and then head to a quiet creative space where there is very little distraction. This time is only for my Master's Project. I set aside care for my dogs and I communicated to my children that this is my time. I have the support of my family in this one-day-per-week approach.

Second, I identified several accountability partners this semester. My son-in-law also returned to school to finish his degree so we check in on each other every week and celebrate turning in our work and classes completed. In addition, I scheduled class time on my work computer and informed my colleagues so they are also a support system and do not schedule overlapping meetings. I signed up for meetings with the course instructor, Dr. Sue Keller-Mathers and also frequent check-ins with a sounding board partner, Andy Burnett. Both of these people are highly respected by me and I will not waste their time. By putting time on their calendars it will force me to be accountable to having work to show them. Andy serves as not only a thought partner but is instrumental in the possible implementation of the design I create into our business so my meetings with him serve in both an educational but also business capacity.

SECTION FOUR: OUTCOMES

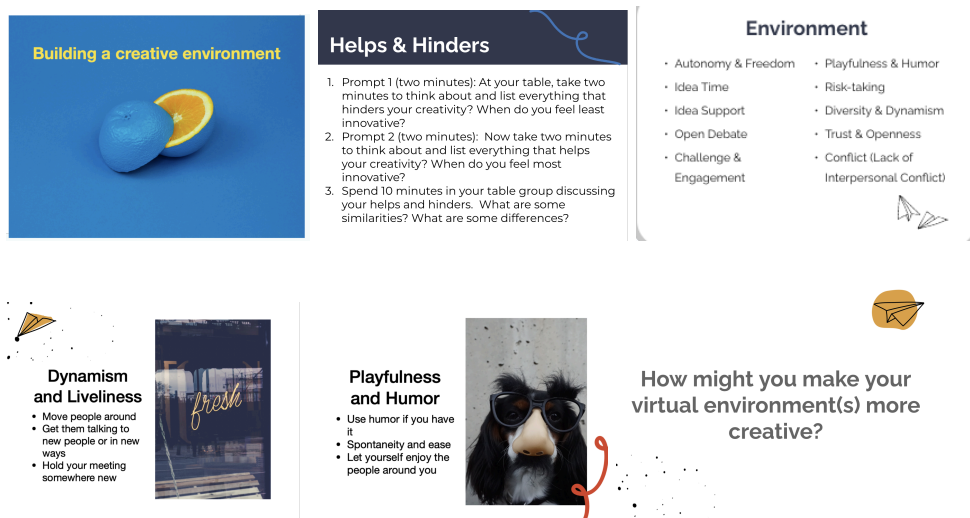
The purpose of my project was to write a blog post that summarizes my thinking on playfulness, creative climate, and virtual environments. This blog post is for publication on the Knowinnovation (KI) website (<https://knowinnovation.com/blog/>). The second output is a product pitch to Knowinnovation for the creation of a playfulness intervention that can be implemented into a virtual facilitated workshop.

A Pivot

Before writing the blog, I developed and delivered training for Ohio State University's GRO (Growing Research Opportunities) Academy. It was important for me to test some of the assumptions I was making for possible challenge spaces and interventions worth exploring before putting them in front of a client or on the internet. Below are a few slides from the presentation I gave and the activities we worked on in the room (see Figure 1).

Figure 1

GRO Academy Slides Excerpt



I also had the opportunity to host many discussions with researchers at events that I have worked on over the semester. I enjoyed asking questions and listening to their thoughts on

virtual meetings. The discussions were great. We spent a lot of time talking about how they might translate aspects of the physical environment into a virtual one. We talked about the difference between virtual classrooms, lab meetings, and larger collaboration meetings. We talked about ideas ranging from zoom background challenges to encouraging doodling, breaks, and allowing people to turn off their cameras and go for walks. A key takeaway is how we might battle zoom fatigue by creating content to be disseminated via audio and only bringing people together for synchronous meetings. They would meet together less often, but when the opportunity for impact was the greatest. We all agreed that they had it in their power to be deliberate about every interaction they have with students and collaborators and while it might be uncomfortable, they can run small experiments. Overall it was great learning and helped me reframe the blog that I was writing into more practical strategies to add dynamism and playfulness to a virtual meeting instead of a report on research. It also helped me frame the pitch I wanted to run through KI as two interventions; one for the individual and one for teams.

Blog: Practitioners of Playfulness and Dynamism

The blog is currently in draft form and under review. I hope to have it published within the next few months. I wrote it as an article introducing myself, my passion for virtual events, and why I think it is important that we tackle fun and dynamism in virtual spaces. Importantly, it shifted from a place to capture my insights from my research this past semester and into a practical post to share tips and experiments that we might all challenge ourselves with. Figure 2 below is the blog introduction. A full excerpt is available in Appendix A.

Figure 2

Introduction: Draft Blog

Spend any time with Knowinnovation's (KI) Founder and CEO, Andy Burnett, and you will find yourself a science enthusiast, all things tech curious, and voraciously curious about Creativity. That's what happened to me. I worked at the Center for Applied Plant Sciences (CAPS) at The Ohio State University when partners, Andy Burnett and Stavros Michailidis ran a KI workshop for our faculty (we wrote about it - [link to chapter](#)). It was a great event for our faculty and a life-changing experience for me. Now, almost a decade of facilitating workshops later, I am part of KI's 20th Anniversary celebrations. It's made me think a lot about what might KI's next 20 years look like. What will scientific innovation look like? Who will be included? What role might I play?

When I started out my creative journey, I earned a graduate certificate in Creativity and Change Leadership and quickly set my graduate studies aside to get busy applying my knowledge. I love my job, I think it is fair to say I have the best colleagues, meet the most inspiring researchers and research development professionals, and learn about bleeding-edge science. I never missed my studies but I did vow to pick my studies back up if I ever found myself unable to assuage the pull of a passion project. It's been 8 years since that time and 2023 provided a spark of inspiration that I could not put down.

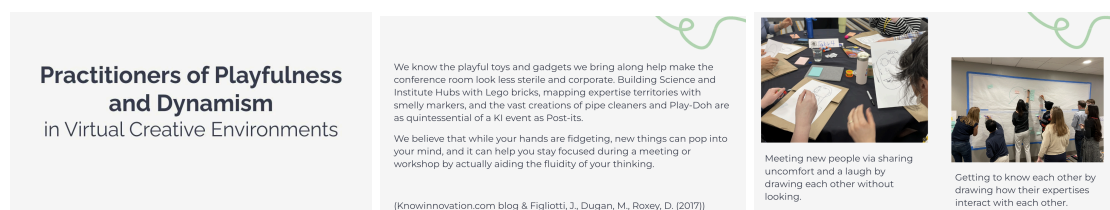
2019 "Fun" and "Virtual": Mac and cheese

Product Pitch: Interventions at the Individual and Team level

I pitched a playfulness experiment for our virtual workshops at two levels, the individual and the team. I created a slide deck that includes a prototype of a welcome package and the write-up for an online collaborative team challenge. I opened the pitch with what we know about playfulness and dynamism as practitioners, Figure 3, and then described my prototype and team game.

Figure 3

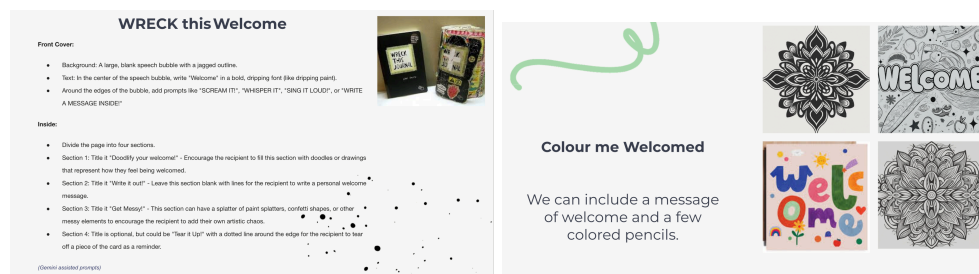
Slides from Pitch Document



Slides are available in Appendix B.

Individual - Welcome Package

I propose a physical intervention at a virtual event as a means of increasing the fun and dynamism of the event. A small welcome kit would be shipped to each participant of a virtual Ideas Lab. Each kit would contain a welcome card, a Sharpie, a Post-it pack, and two small toys. The card will welcome them to the event and explain the value of toys (Figliotti, Dugan, Roxey, 2017). I even toyed with (pun intended) ways of making the card useful and then decided the entire box should be useful. The kit is modeled after a Wreck This Journal. Wreck this Journal's product description on Barnes and Noble website is "Through a series of creative and quirky prompts, acclaimed guerilla artist Keri Smith encourages journalers to engage in destructive acts—poking holes through pages, adding photos and defacing them, painting pages with coffee, coloring outside the lines, and more—in order to experience the true creative process." That is the idea for the welcome box, wreck it. For example, there would be multiple versions of the welcome cards. One will be designed in such a way as to color it like a coloring book, another to fold it origami style or cut up for tangrams, etc. The Sharpie and Post-its can be used for capturing content and doodling. The first toy is a small container of Play-Doh or neh-doh for people who like to squish. The second toy is a small pack of pipe cleaners or fidget toys for those who like to spin, twirl, etc. I would like to collect data via a feedback survey on which toys people received and used.

Figure 4***Wreck this Welcome Prototype*****Teams: Virtual Innovation Lab Olympics**

I had the idea to adapt an activity that is loved by participants to fit a virtual workshop after reading Crisp's blog (Brodd, 2024) about paper snowflakes. To incorporate fun and dynamism into our virtual Ideas Labs, I pitched the modification of one of our signature in-person activities, Ideas Lab Olympics. This activity, originally developed by Tim Dunne, involves everyone signing up for random teams using March Madness brackets. What I love so much about this activity is how competitiveness and silliness are at odds with each other. It has many of the hallmarks of social play as outlined by Patrick Bateson (2015). The playfulness is fun and noncompetitive. Some team members never play, they just come to cheer on their group members. The activities are cooperative so scientists can play different roles. Groups come up with a team name and two people from each team compete in various games. As teams win, they progress through the bracket to the championship game. At an in-person workshop, these games are made up when we arrive at the venue and see what they have on hand. We then mess up all the rules, if they have a pool table for example, or make a new game if nothing is available. It is always a great time. A few of my colleagues have been demoing different activities virtually, so this was a natural progression of our experiments. Over this semester I completed a virtual escape room and tried virtual charades, Pictionary, and many more activities. After much exploration and experimentation, I created one Virtual Ideas Lab

Olympics module. Below are the first slides, Figure 5, the description will be posted on Knowinnovation's website. A full overview is part of Appendix B.

Figure 5

Virtual Innovation Lay Olympics

Experiment Two

Virtual Innovation Lab Olympics

A 90-minute virtual happy hour. Can be run before an event or as a 6, 12 month workshop anniversary.

Virtual Charades - NASA theme

Round 1
Space Objects: Sun, Moon, Earth, Rocket, Astronaut
Space Phenomena: Shooting Star, Eclipse, Black Hole, Nebula, Constellation (simple ones like Orion or Ursa Major)
Space Exploration Missions: Apollo 11 Moon Landing, Mars Rover, Hubble Telescope Deployment

Round 2
Astronaut Activities: Spacewalk, Performing Experiments, Eating Space Food, Planting a Flag on the Moon, Training in a Centrifuge
Spacecraft: International Space Station (ISS), Soyuz Capsule, Space Shuttle, Lunar Lander
Space Suits: Extravehicular Activity (EVA) Suit, Advanced Crew Escape Suit (ACES)

Final Round
Water on Mars, First Image of a Black Hole, Discovery of Exoplanets, The Big Bang Theory, "That's one small step for man, one giant leap for mankind!" - Neil Armstrong, "Houston, we have a problem!" - Apollo 13 crew, Curiosity rover is on Mars! - NASA announcement

The Championship Round

Buddies	Institutions	Territories	Wizards/NASA	Space!
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

Personal Goals

I identified several personal goals I hoped to achieve throughout my project. I wanted to better understand playfulness as one of Ekvall's 10 dimensions of Creative Climate (1996), gather data and insights that contribute to the understanding of the impact of playfulness on creativity in virtual environments, and investigate opportunities for playfulness to be intentionally integrated into virtual environments. I was able to accomplish all my personal goals and so much more.

SECTION FIVE: KEY LEARNINGS

Overall, I learned that I am wildly passionate about the creative environment, and probably more importantly, that I am a practitioner at heart. I love thinking through every aspect of the space I create for a workshop. What will go on what walls? When will we have breaks? How will we set tables? What can I get participants to create? When might I encourage movement? I thought I would be able to translate this enthusiasm into my online workshops. When I started this project I hoped to write something that would contribute to the understanding of dimensions of creativity in a virtual space. I quickly learned that my passion is in my profession as a practitioner. I am drawn to how I might design and implement an experiment and capture questions. I would then happily turn over my observations and questions to academics to ask the 'why it works' types of questions.

Tackling this project while humbling my academic desires has ignited in me the desire to purposefully think of how I translate the physical to the virtual world. How can I with intention create moments of movement, using color, sound, and humor? When can I break the need for synchronicity? How might I encourage opportunities for participants to draw, build, and design?

Research and Training

I learned almost immediately that playfulness, humor, and dynamism are areas that cause many academic researchers, maybe particularly in the hard sciences, a lot of discomfort. My biggest takeaway from my months-long deep dive into how to incorporate aspects of creative dimensions into the virtual environment is "it depends." Through the GRO Academy session and discussions with researchers this semester I was able to learn even more about the environments they create, and wish to be more creative. We talked about classrooms, labs, clinics, offices, extension, and more. Academic researchers wear so many hats and each environment has the opportunity to be consciously designed. These discussions often devolved

into talking about what the goals for each of these settings are, who attends, why the sessions are virtual, etc. In each scenario and for each individual they have different levels of comfort with creating a lively, spontaneous environment where they lead with positive energy and jokes. To add to this complexity, many are not technology aficionados so there were concerns about the hurdles in implementing solutions. The most fun I had was inspiring the researchers to take chances. It often looked like this summary from a discussion at a workshop in Arizona.

me: Do you have to have your cameras on during class?

faculty: Yes. It is required.

me: Would you be able to invite your class to sit outside on a beautiful day?

faculty: Would that work? Would they be more creative?

me: I have no idea, but could you try? And, if so, what might you try after that?

faculty: Maybe a different location for every lecture?

me: How do you think the students would respond?

faculty: They might think it's fun, like where's Waldo?

me: ahhhhh. Playfulness and Humor.

Blog Post

I learned a lot about myself while writing the blog post. I learned that I have to get out all of my thoughts, learnings, hunches, and experiences. I think the writing process is astonishingly difficult. I had no idea where to start. I researched how to write a good blog post, how many words, the format, and so on and so on. I found that the criteria constrained my thinking to the point of paralysis. After a sounding board check-in where I vented the challenge and talked through the block I was facing, I was told, to just write. Write it all. Maybe it would be too long for a blog post, maybe it would be too short for a book, but for now, who cares, get it all out. The point was I needed to put my thoughts on paper and see where it led. I did. It is too long for one blog post and much too short for a book. I am in the process of working with our editor to pull

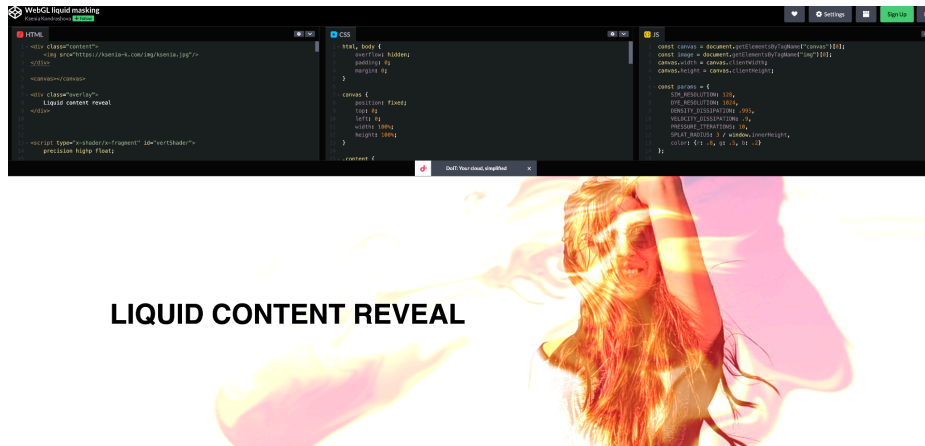
from my writing at least one blog post, possibly more, possibly something different. I learned I am not a professional writer, but I do have lots to say, and thankfully there are writers within our organization.

Product Pitch

I learned a great deal while drafting the product pitch. I wanted to target specific virtual fun or dynamic individual activities that were playful, could be done inexpensively, in little time, and would not be distracting to the workshop. I thought at the beginning of this project I was going to pitch an online game. After doing preliminary research, especially reading Chris Bailey's (2021) work on emergent thoughts, drawing, and play in virtual education, I visualized a virtual doodle pad modeled after a combination of the Harold and Purple Crayon book and Google's dinosaur arcade game, the one when you have no internet. I poured through the "Insightful Gameplay" themed edition of the Journal of Comparative Research in Anthropology and Sociology, after being inspired by Doris Rusch's opening when she wrote "games as social spaces where players form lasting relationships..., games can evoke empathy, foster learning and stimulate self-reflection about social issues" (Rusch, 2015). I played with all sorts of online software on my journey, my personal favorite as seen in Figure 6 was WebGL liquid masking (Kondrashova, 2024). I was trying to identify something fun, a game, with something functional, like doodling.

Figure 6

Liquid Content Reveal



After playing with different games for weeks my hunch was that the addition of another screen, even for the sake of incorporating fun, or the benefits of mind wandering, is not practical and can be disruptive to virtual events. Was a dynamic mind-wandering activity for virtual spaces really dead? I picked up Paul Seli's research into mind wandering. I have followed him for years and was eager to see recent work that might explore the benefits of mind wandering that I could use as justification for my virtual doodling Harold. I was quite disheartened that his team "found no evidence for the claim that mind wandering during a creative-incubation interval facilitates a form of creativity associated with divergent thinking" (Murray, et al., 2021, p.2). This was only one article and I know there are other studies outlining different benefits during different phases of the creative process, but I had a mission of getting this project done. This semester. Time was of the essence and weeks had passed, so I pivoted.

I started paying attention to what myself and colleagues found useful and practical. What was I seeing in use at events? I wondered if a physical intervention in a virtual space would work. What would happen if I mailed a welcome box to each participant? I could place in the box toys that as a practitioner I know to be fun and dynamic. I could design activities in my online workshops utilizing what was sent increasing the dynamism of my work. Bonus, I might even use this as a strategy to heighten the anticipation of participants (Torrance, 1979).

I loved my learning during this phase of my project. While I felt a little like I was on a hamster wheel going around and around, it was also when I had the most energizing conversations. Talking to people about what is possible to create, what fun means, and how people like to experience spontaneity. I shared a lot of laughs with my colleagues and participants. I always felt my brain was buzzing during this stage.

Evaluation

What worked: Time blocking was hugely useful for me. I do not think I would have finished had I not started out this way. Over this semester, I worked full time, bought a house, sold a house, traveled 4 times for business-led major workshops, led another workshop virtually, traveled one time for a family emergency, and continued to be a mom and partner, and otherwise attempted to continue adulting. Needless to say, it was a crazy busy semester for me. Had I not started this semester every Saturday in a co-working space outside of my home I doubt I would be finishing. I was also very happy I set up sounding board meetings at the beginning of the semester. Although I had to cancel some as my schedule filled up, I think it was critical that I had designated check-ins every few weeks.

I wrote a blog, check. I created a pitch for interventions, check. The long-term impact from this project is probably negligible and evaluating one's personal learning is always a difficult thing to do. I spent a lot of time researching space that was very unfamiliar to me and playing all sorts of online games to see which might be implementable, scratch the itch of fun, dynamic, and useful while not being distracting.

I don't know that I would have done anything differently as I undertook this project. I think focus was a major hurdle, but I also realize that when I started I did not have the breadth of knowledge to know how to scope this project down. I adventured down many rabbit holes, thought a lot, played a little, ran a few experiments, and got to spend time talking and listening to others. I experienced virtual escape rooms and imagined fun games like Pac-Man faculty

collecting grad students while running away from administrators. I read a ton and tried out AI tools, and through it all, I enjoyed the challenges and my learnings. I only wish I had more time.

The words on these sheets of paper will never adequately convey my learning. As a practitioner, I touch the lives of hundreds of people each year through the workshops I facilitate. This project has changed me and that means it will change how I approach designing my events. I will forever be a more deliberate and thoughtful curator of virtual workshop spaces. I will plan with intention and keep my mind open to new ways of incorporating fun and dynamism into my workshops, paying particular attention to virtual spaces. Someday I hope a participant who would typically be unable to attend an in-person event tells me that it did not matter if they were in person or online, they were fully able to participate **and** had fun while doing it. When that day comes, I know I will have moved the needle for that person and science will be better for it.

SECTION SIX: CONCLUSION

“We have so much time and so little to do. Strike that, reverse it.”

- Roald Dahl

At a microscale, what I see myself doing next is,

- intentionally planning moments into virtual events to increase the fun, humor, and dynamism of the event.
- facilitating a virtual Ideas Lab Olympics.
- shipping welcome packages to participants and tracking their experiences.

From a macro perspective, I think the world is ready for more creative virtual working environments. We need spaces where we can collaborate and be our most authentic, creative selves. They must be virtual. We need researchers to study mindfulness, fidgeting, doodling, and more, in the context of virtual settings. We need practitioners to partner with these cognitive psychologists to run experiments and collect data. We need to intentionally design agendas, keeping the dimensions of a creative environment top of mind. We must raise access and inclusion beyond the known biases and translate these virtual interventions for people with low vision, hearing, and mobility challenges, and beyond. We need everyone at the table to tackle the world's greatest scientific challenges. We should span the globe and we should be sustainable.

In closing, although I never took the path I intended by creating an online game, I had an absolute blast thinking with Andy Burnett about wild and fun games that might be created to fit our academic audience. The Evolving Environment of Harold and the Purple Crayon is one of my favorites, as are many others that we thought up. If you ever want to create an online game, please reach out, we've got some ideas to share.

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APPENDICES

Appendix A: Excerpt from Knowinnovation draft Blog

The power of play in virtual environments: A practitioner perspective on integrating fun and dynamism in your online climates.

Spend any time with Knowinnovation’s (KI) Founder and CEO, Andy Burnett, and you will find yourself a science enthusiast, all things tech curious, and voraciously curious about Creativity. That’s what happened to me. I worked at the Center for Applied Plant Sciences (CAPS) at The Ohio State University when partners, Andy Burnett and Stavros Michailidis ran a KI workshop for our faculty (we wrote a chapter about it in Pathways to Collaboration, Volume 2, 2017). It was a great event for our faculty and a life-changing experience for me. Now, almost a decade of facilitating workshops later, I am part of KI’s 20th Anniversary celebrations. It made me think a lot about what KI's next 20 years look like. What will scientific innovation look like? Who will be included? What role might I play?

When I started out my creative journey, I earned a graduate certificate in Creativity and Change Leadership and quickly set my graduate studies aside to get busy applying my knowledge. I love my job. I think it is fair to say I have the best colleagues, meet the most inspiring researchers and research development professionals, and learn about bleeding-edge science. I never missed my studies but I did vow to pick my studies back up if I ever found myself unable to assuage the pull of a passion project. It’s been 8 years since that time and 2023 provided a spark of inspiration that I could not put down.

2019 “Fun” and “Virtual”: Mac and cheese

As a practitioner of creative problem-solving sessions in both physical and virtual environments, I observed the shift in preferences between virtual and in-person events from 2019 to the present. Virtual collaborations spiked at the beginning of COVID-19 as a necessity. Science had to continue, and the world was shut down, so a shift to remote work was essential. KI was poised and ready to help, having already run large virtual workshops. As a globally distributed company, we already worked remotely, and through KI's software platform, KiStorm, with the help of some seasoned techies, KI could quickly pivot to virtual client work. In 2019 virtual *was* fun. KI was experimenting in virtual reality workshops, exploring interactive online games, and artificial intelligence, and just playing around in virtual spaces. I had a blobby avatar, could smack a ping pong ball across the pond (Atlantic) with colleagues in the UK, interact with Monet's paintings at a VR museum exhibit, and walk through mazes picking up clues with my disembodied hands. Virtual was fun and delicious (like mac and cheese)!



(photo credit: Unsplash, Vinicius Amano)

Anecdotally, when KI moved its workshops virtual, we recognized that we were building a more inclusive space, breaking barriers for individuals facing challenges like childcare, eldercare, or accommodation needs. This was an exciting time for access and inclusivity. We were saving petrol costs and travel time, we saw no decline in productivity or creative outputs, and we saw so many new faces at our events.

2023 “Fun” and “Virtual”: Oil and Water

In 2023 the pendulum swung back. In the last few years "Zoom fatigue" has been codified in our modern lexicon (Bailenson, 2021). Fauville and colleagues at Stanford University created a Zoom Exhaustion & Fatigue Scale (Fauville et al., 2021). These psychological factors and their downstream consequences led to a resurgence of preference for in-person events. When we ask clients why they want an in-person event, even while highlighting the virtual workshop benefits such as inclusivity, accessibility, and sustainability, they tell us that virtual events are exhausting and in-person workshops are just more fun. At the end of a day of zoom and Team meetings, my VR headset collects dust in a corner. Virtual and Fun separate like oil and water for many of us.

My professional passion for accessibility to, and diversity in, science, wants me to facilitate more virtual events. I want to continue our ability to reach beyond, to find those who typically cannot participate in intensive residential experiences and raise their voices. I want to cut down on time away from families and friends, I want to make an impact on sustainability. This leads me to wonder, might we move the pendulum ever so slightly back to virtual workshops by deliberately addressing one negative critique of virtual workshops? Might we

integrate more “fun”? Are there readily available resources now? Are there interventions worth developing?

So began my quest. What might be all the ways to bring a little fun back to virtual events?

[Like any good cooking blog, press here to skip to the recipe. Read: skip to the insights and recommendations]

Fun & Creativity

We know that “fun” is playfulness and that playfulness has a positive impact on creativity (Bateson, 2015). Research also shows positive relationships of playfulness with activity and mental health (Proyer, 2018). There are decades of research on how fun and playfulness are connected to creativity in a variety of ways. There are almost too many valuable resources on this topic to share. So what is the gap? Why am I writing this?

The Gap

I decided to try phind AI to help me look for resources

“The search results do not directly address how Ekvall's creative climate model has been applied to virtual environments within the past five years. The sources mainly focus on the general framework of Ekvall's model, its dimensions, and its significance in fostering creativity and innovation within organizations. However, they do not offer specific insights or examples of recent applications of this model in virtual settings...To apply Ekvall's model to virtual environments, one would need to consider how these dimensions translate into virtual work settings. This

could involve examining how virtual collaboration tools and practices support or hinder the dimensions of challenge, dynamism, playfulness, freedom, risk-taking, idea time, idea support, trust and openness, debate, and conflict. Given the lack of direct information on recent applications of Ekvall's model in virtual environments, further research would be necessary to explore how this model has been adapted or applied to virtual workspaces, including studies or case studies that specifically address this topic within the last five years.”

Practitioners of Playfulness and Dynamism


The insights I share here are filtered through the lens of a practitioner of creative problem-solving workshops in primarily academic research spaces. Below I offer a few ideas you might use when constructing your virtual events.

(End excerpt)

Appendix B: Intervention Product Pitch

Practitioners of Playfulness and Dynamism in Virtual Creative Environments

Practitioners of Playfulness and Dynamism in Virtual Creative Environments



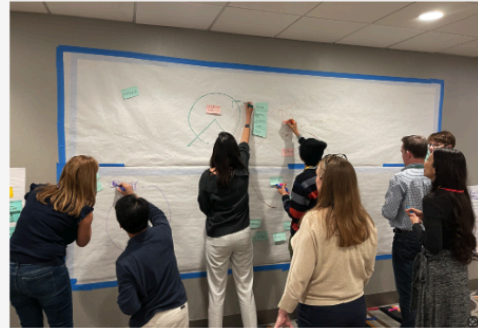
We know the playful toys and gadgets we bring along help make the conference room look less sterile and corporate. Building Science and Institute Hubs with Lego bricks, mapping expertise territories with smelly markers, and the vast creations of pipe cleaners and Play-Doh are as quintessential of a KI event as Post-its.

We believe that while your hands are fidgeting, new things can pop into your mind, and it can help you stay focused during a meeting or workshop by actually aiding the fluidity of your thinking.

(Knowinnovation.com blog & Figliotti, J., Dugan, M., Roxey, D. (2017))



Meeting new people via sharing discomfort and a laugh by drawing each other without looking.



Getting to know each other by drawing how their expertises interact with each other.

The optimal level of stimulation (or lack thereof) not only varies among people but even can change for one person throughout the day depending upon what he or she is trying to do. So people fine-tune their environments to get things just right: for example, putting on headphones in a noisy office environment to substitute less distracting noise.

A person who can't get up and walk around to wake up a bit, or go have a nice cup of tea to calm down, may find it helpful to use a fidget item to get in the right frame of mind to stay focused and calm while staying put.

(Isbister, 2017)

Participants moving about, reading walls, outdoor discussions, and games.



Colour and humor in themed outfits



Evolving and colorful use of space.

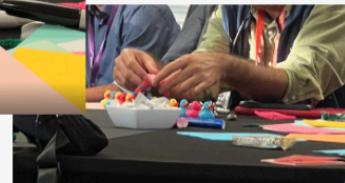
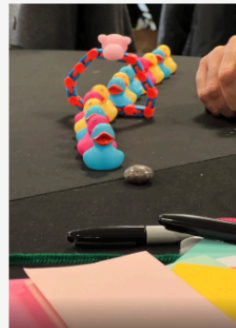


One thing people often report is that fidgeting with an object in the hand helps them to stay focused when doing a long task or sitting still and attentive in a long meeting.

Another common thread involves people using some fidget objects – like a favorite smooth stone – to calm themselves down, helping them achieve a more relaxed, contemplative, even mindful state.

(Isbister, 2017)

Toys in action: creating, fidgeting, and more.



I followed up with our knitter and she told me it helps her brain stay busy so she can remain focused.

But how can we support fun and dynamism
in a Virtual Workshop?!



Experiment One

Dynamism in a Box

A welcome box shipped to each participant for an upcoming Ideas Lab. It will include a short message about the value of dynamism in a KI workshop. Each box will have a welcome card from the team, a toy, and depending on the event, something that will be used during the event.



WRECK this Welcome

Front Cover:

- Background: A large, blank speech bubble with a jagged outline.
- Text: In the center of the speech bubble, write "Welcome" in a bold, dripping font (like dripping paint).
- Around the edges of the bubble, add prompts like "SCREAM IT!", "WHISPER IT", "SING IT LOUD!", or "WRITE A MESSAGE INSIDE!"

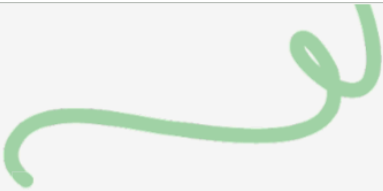


Inside:

- Divide the page into four sections.
- Section 1: Title it "Doodlify your welcome!" - Encourage the recipient to fill this section with doodles or drawings that represent how they feel being welcomed.
- Section 2: Title it "Write it out!" - Leave this section blank with lines for the recipient to write a personal welcome message.
- Section 3: Title it "Get Messy!" - This section can have a splatter of paint splatters, confetti shapes, or other messy elements to encourage the recipient to add their own artistic chaos.
- Section 4: Title is optional, but could be "Tear it Up!" with a dotted line around the edge for the recipient to tear off a piece of the card as a reminder.



(Gemini assisted prompts)



Colour me Welcomed

We can include a message of welcome and a few colored pencils.



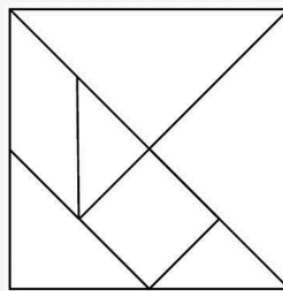


The TOY!

Something to squish like Play-Doh or Nee-Doh and something to twirl, fidget or construct with.



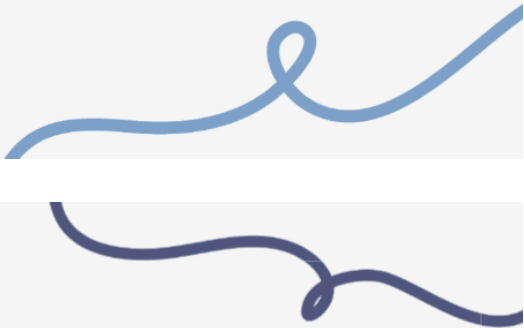
The shipping should be part of the fun. We want to give them uses such as a pattern inside for tangrams, or make it part of the fun for an activity where they have to build a concept they are trying to communicate with only the objects in their box, or they go for a walk collecting found items to use in an activity. Maybe the design challenge is to come up with something to do with their box. The idea is to ensure that no piece of the welcome goes unused.



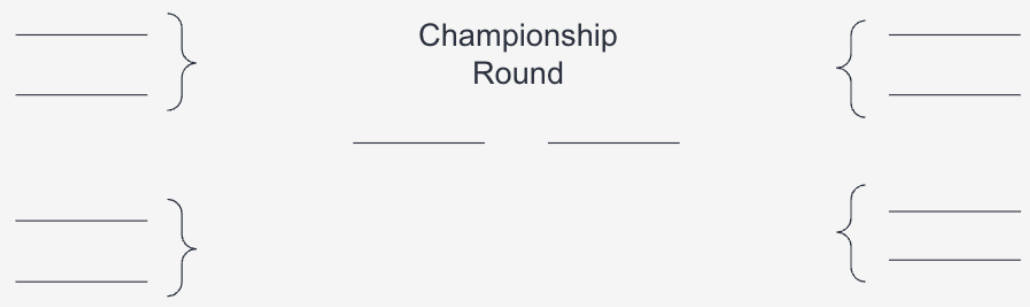
Experiment Two

Virtual Innovation Lab Olympics

A 90-minute virtual happy hour. Can be run before an event or as a 6, 12 month workshop anniversary.



The Bracket



Virtual Charades - NASA theme

Round 1

Space Objects: Sun, Moon, Earth, Rocket, Astronaut

Space Phenomena: Shooting Star, Eclipse, Black Hole, Nebula, Constellation (simple ones like Orion or Ursa Major)

Space Exploration Missions: Apollo 11 Moon Landing, Mars Rover, Hubble Telescope Deployment

Round 2

Astronaut Activities: Spacewalk, Performing Experiments, Eating Space Food, Planting a Flag on the Moon, Training in a Centrifuge

Spacecraft: International Space Station (ISS), Soyuz Capsule, Space Shuttle, Lunar Lander

Space Suits: Extravehicular Activity (EVA) Suit, Advanced Crew Escape Suit (ACES)

Final Round

Water on Mars, First Image of a Black Hole, Discovery of Exoplanets, The Big Bang Theory, "That's one small step for man, one giant leap for mankind." - Neil Armstrong, "Houston, we have a problem." - Apollo 13 crew, Curiosity rover is on Mars!" - NASA announcement

Get Moving - NASA theme

Scavenger Hunt:

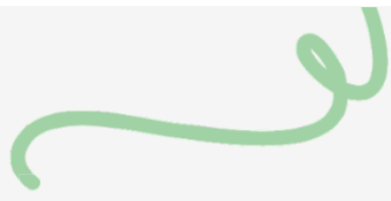
- Find a structure that resembles a rocket ship and perform a "space walk" on it (carefully!).
- Locate a large open space and recreate the movements of planets orbiting the sun.
- Do some "astronaut training" by completing a series of exercises like jumping jacks and squats.

Hidden Messages:

- Hide a message written in astronaut code (use a simple substitution cipher) around the hunt location and have participants decipher it.
- Scatter clues related to constellations or planets and have participants use a star chart or app to find the final location.

DIY

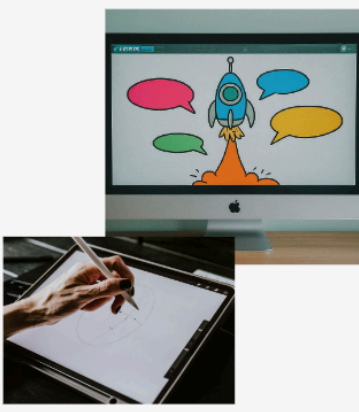
- You have 10 minutes to build a solar system with items you can find in the room you are currently in.
- Find an item that might be used as a biosignature of human life. You must convince the judges your item is the best biosignature.



NASA Themed Pictionary

Round One

- Neutral Buoyancy
- Quasar
- Remote Sensing
- Geology
- Payload Bay



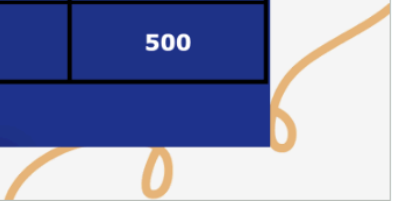
Find prompts at

<https://www.nasa.gov/learning-resources/nasas-picture-dictionary/>

The Championship Round

Buddies	Institutions	Territories	Wizards/NASA	Space!
100	100	100	100	100
200	200	200	200	200
300	300	300	300	300
400	400	400	400	400
500	500	500	500	500

M E N U	Team 1	Team 2	Team 3
	0	0	0
	+ -	+ -	+ -



Permission to place this Project in the Digital Commons online

I hereby grant permission to the Department of Creativity and Change Leadership, Center for Applied Imagination at Buffalo State University permission to place a digital copy of this master's Project Designing an Experiment for Playfulness in a Virtual Environment for Enhanced Creative Climate as an online resource.

Donnalyn Roxey



Name

April 29, 2024

Date