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The SEED Framework for Cultivating Creativity



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Introduction

Creativity is an essential resource for fueling the future. As educators think about innovation and progress, they must also examine long-held assumptions and narratives about creativity. Too often innovative educational experiences favor young people from more privileged backgrounds and lack diversity of perspective and context. This entry offers a new pedagogical framework for developing creativity in a more collaborative, distributed, and equitable way. The SEED Framework for Cultivating Creativity is a paradigm intentionally designed to incorporate inclusivity and justice as considerations in the creative classroom. Building on contemporary creativity research, the SEED framework offers a practical and replicable process for ideation across a wide variety of environments and situations. The framework is built around four core pathways for creative thinkers to explore; (1) Social interactions, (2) life Experiences, (3) Environmental influences, and (4) Discoveries, that support the generation and improvement of ideas. The four pathways detail practical strategies for shifting ideas into a wider space by seeking input from

diverse people, examining cultural perspectives, and looking closely at personal context and identity. The ultimate goal of the SEED framework is to provide a replicable process to navigate the complexity inherent in any creative endeavor and to understand the conditions needed for ideas to flourish. SEED is an actionable framework that empowers all students to become active transformers of their world and advances educational practices in building a more equitable, inclusive, and just society.

The SEED Framework for Cultivating Creativity

Students and educators are often limited by a narrow understanding of creativity and view it as a random process guided by inspiration, talent, or solo genius. They see creativity as something that they possess or they do not – a fixed disposition, a personality trait, or a burst of insight. When asked to describe how they develop a creative idea, students frequently respond with answers such as “I am not creative” or “I just try to think out of the box.” These misconceptions reinforce long-held assumptions that creativity is an individual pursuit that happens by accident. What do these narratives say about creativity and a student’s position within it? Like many stories embedded in societal systems, assumptions have the power to limit or expand opportunities. Students often accept fixed messages about creativity because

they are unaware of the multitude of factors that influence the development of ideas. In reality, effective creativity is an incremental, collaborative cycle of the evaluation and refinement of ideas, not spontaneous individual creation.

SEED (Social interactions, Experiences, Environment, and Discovery) provides a practical and replicable resource for reframing creativity in a variety of educational settings. The framework pushes against prevailing assumptions that limit creative participation and opportunity. By examining social interactions, experiences, environmental influences, and discoveries, distributed and participatory narratives of creativity begin to emerge. The framework supports the properties of distributed and participatory creativity by focusing on the role that other people, ideas, systems, and objects play in creativity. This inclusive and open process is connected, social, and relational and guides conversation about the necessity of a diverse and informed process.

The SEED framework is for students who believe that they are creative, for students who believe that they are not, and for those who are not yet sure. It offers an accessible and applicable process that invites all students to take charge of their ideas by examining multiple possibilities and looking beyond the surface. Because the SEED framework gives students a clear process to follow, it helps them develop the confidence necessary to begin to unravel the complex and ambiguous world of creativity.

A crucial aspect of SEED is that it helps educators design creative learning experiences that frame and support students' creative endeavors. SEED is a practical resource that educators can

implement inside or outside of a formal classroom environment to support the creative process through guided documentation and collaboration. SEED fosters the development of ideas and applies a replicable structure to help educators unpack creativity.

The SEED Framework

The SEED framework encourages learners to explore four connected pathways that integrate internal and external thinking to more effectively develop and refine creative ideas. SEED links contemporary perspectives on creativity to educational practice and emphasizes ideas as the core of creativity rather than the individual (Clapp 2017). This structure provides multiple points of entry for students to participate in creativity. Through exploration, questioning, and analysis, and by focusing on SEED, students can work and feel more effective. When applying the framework, students learn that the value lies not merely in the outcome, but in their engagement in the overall process.

The Four Pathways

Creativity is not a nebulous concept driven by a series of ah-ha moments; it is a disposition that students can deconstruct, practice, and grow. When working with a new idea, design challenge, group, or individual project, students examine and improve that idea by following four parallel pathways (see Fig. 1). In each of these four domains,

The SEED Framework for Cultivating Creativity,
Fig. 1 SEED framework
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there are inquiry questions that prompt action and guide the process. The four pathways apply to any creative endeavor, project, or assignment and direct students to look closely at social interactions, life experiences, environmental influences, and discoveries.

Pathway 1: Social Interactions

Social interaction fuels ideation. The more diverse people that connect to an existing idea, the stronger it becomes. The Social Interactions pathway invites students to build ideas by looking outside of themselves and seeking direct and intentional interactions. By bringing others into the process and casting a wide social lens, this pathway encourages students to consider diverse perspectives and viewpoints. With an expanded network and new information, social identity, position, power, and privilege become overt considerations in the creative process. The larger and more diverse the social network, the more fuel for ideation. Throughout the pathway, students engage with others, ask questions, challenge existing assumptions, and grow to understand how different people influence ideas. They make connections and consider multiple perspectives leading them to understand creativity as a team sport with a shared goal. These conversations expand opportunities and invite new perspectives into the process. The awareness that ideas strengthen when shared with others influences understanding, stimulates curiosity, and offers space for further exploration. Students learn that co-creation is fun. It is the energy of creativity.

Pathway 2: Experiences

The embodied experiences of each unique human being are powerful raw material for creativity. The Experience pathway invites students to look inward and examine life events because people must know who they are in order to connect authentically to others. Every single experience a human being has, whether or not it seems related to a current endeavor, influences creative thinking. Each person is a unique combination of experiences, and those experiences effect how we see, perceive, and approach the world. Difference maximizes creativity and creates opportunity.

The more diverse the experiences, the more opportunity. The Experience pathway reminds students that context, point of view, background, and culture influence the development of ideas. It helps them make a connection between identity and creativity. Using experience as a starting point also allows learners to assess who they are and what they already know so they can extend their thinking and gain new insights. Full participation in creativity is possible when students are valued, seen, known, and heard for who they are and the experiences that shape their identity.

Pathway 3: Environment

The Environment is a doorway to creativity. The Environment pathway leads students to look outward in order to identify opportunities and constraints. This pathway promotes a greater awareness of the physical tools, materials, and systems with which students coexist. The Environment pathway allows students to discover new ways to connect with their surroundings and expands their awareness of position, privilege, and power. Too often innovative educational experiences favor individuals and groups from privileged backgrounds resulting in an unequal distribution of resources and materials. By stepping out of familiar environments and exploring new settings, students see the distribution of resources within a society. As they begin to understand the resources that are available to them, a stronger sense of agency and empowerment emerges. Therefore, the environment becomes a catalyst for creativity and problem solving.

Pathway 4: Discovery

Curiosity is the key to the Discovery pathway. Every new idea is the distillation of countless historical and cultural contributions. The Discovery pathway examines how ideas connect to the past, reinforces that they do not exist in isolation, and shows that they are part of an interconnected web of systems and objects. Through intentional research, students gather as much data as possible to situate ideas in a broader historical or social context to move their thinking forward. By increasing their understanding and drawing on a large repertoire of existing material, they can

identify systems of inequality and begin to construct new solutions. This exploration reminds students “how things were done before, how what is done now builds on the past and, most importantly, how it can continue into the future” (Glăveanu 2014, p. 67). When students understand the historical and cultural influences that inform ideas, they are equipped with a powerful tool for constructing a more just and equitable society.

Documenting the Creative Process

Documentation is a powerful tool for capturing creativity. The SEED framework makes that process visible. Students review inquiry questions listed under each of the four SEED pathways and choose one or more actions to help move a specific idea forward. These questions are open ended, with no right or wrong answers. Learners record their answers in a blog, digital recording, or journal, and tag each entry with a SEED block so they can document the evolution of the idea (see Fig. 2). A block consists of any action taken during a creative pursuit. For example, when students engage in a social interaction, they complete a block of documentation and categorize it under pathway 1. After students analyze and collect this data, they generate a preliminary SEED graphic to document the process (see Fig. 3). This graphic represents the development of an idea over time and provides a synthesis of the entire process. Through this practice, students move their ideas into a visible graphic, allowing for concrete feedback about the progression of an idea. This documentation not only engages students in data collection but also affords them a way to map their own process. By indicating how far an idea has progressed, creativity becomes visible to both learners and educators. The blocks also allow them to notice which pathway(s) they favored and which they neglected. For example, in Fig. 3, two social interactions, three life experiences, four environmental influences, and five discoveries influenced the development of a creative idea. If students see that they have not fully explored one or more pathways, they can revisit

those areas in a targeted way. Throughout this process, students are encouraged to share, reflect, and grow ideas by seeking additional experiences where the number of SEED blocks are low. Educators can also set a target number for each pathway so students explore all avenues to creativity. To take their process to the next level, students revisit the pathways, continue stacking the blocks, and consider additional actions.

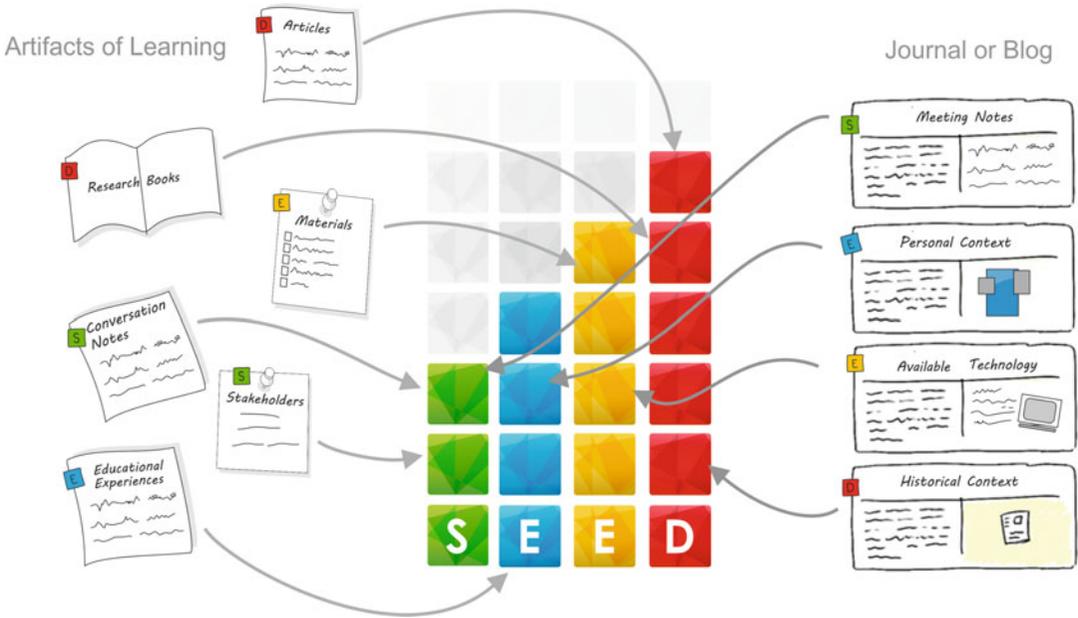
This process of documentation and categorization of their own creative resources invites students to engage in systematic exploration of where their ideas are coming from while giving them an appreciation for the complex interconnections in their world. By following this model, students draw conclusions based on evidence of creativity rather than assumptions about creativity. Furthermore, students learn the value of seeking out people with diverse experiences and backgrounds in order to more effectively create and refine new ideas. The SEED framework offers enough structure to help learners move forward in an intentional way, but at the same time requires all participants to make their own choices.

Once students are well versed in using the framework to develop new ideas, they can reverse-engineer the process and examine something that already exists. For example, students can use the four pathways to look closely at people, objects, systems, or any designed dimension of the world. When students look at creative icons, peers, objects, and designs through the lens of SEED, they begin to see creativity as an incremental, collaborative cycle of the evaluation and refinement of ideas, not spontaneous individual creation.

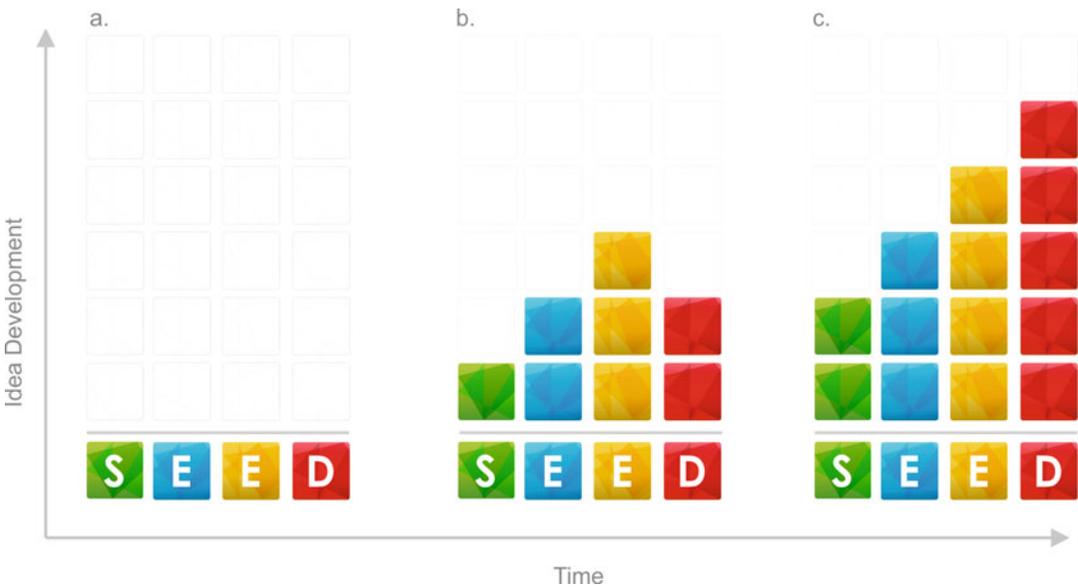
Impact and Outcomes

For Everyone . . .

The SEED framework operationalizes creativity and embeds diversity, equity, inclusion, and justice into every aspect of the process. This generative and continuous practice enables everyone to connect and communicate across differences. The overarching SEED pathways and inquiry questions link creativity to something larger than the



The SEED Framework for Cultivating Creativity, Fig. 2 SEED documentation (© Ricci 2019)



The SEED Framework for Cultivating Creativity, Fig. 3 Stacking the blocks © Ricci 2019

individual. By showing creators the interconnected nature of the world and compelling them to seek multiple points of view, they gain agency and empowerment over their ideas. SEED demystifies creativity and opens the

process up to everyone. Seeing SEED as an accessible and replicable tool removes barriers to creativity and equips all learners with the resources they need to succeed in a complex world.

For Students . . .

Creativity emerges from a complex system of interconnected and dynamic parts. Without an active framework to analyze creativity, students have a limited understanding of the creative process and limit their own potential. When students take time to understand and document this system by analyzing their actions, they are able to ideate unexpected solutions more effectively. The SEED framework gives students a better awareness of themselves and confidence in their ability to be creative. The four pathways determine what students search for in their creative pursuits, and as a result, they open up new understandings and allow for new narratives. Creativity becomes equitable, interwoven, and participatory rather than unpredictable and individual. SEED is not about a breakthrough moment of creativity. Each pathway of the framework helps guide students and gives them tools to articulate and navigate their creative process effectively. Ultimately, this process transforms the way that they see the world.

For Educators . . .

SEED helps educators design learning experiences that leverage contemporary perspectives on creativity. The complexity of the modern world, advances in technology, and artificial intelligence all require students to adopt a new way of thinking, working, and acting upon information. In order for students to change their approach to creativity, their social interactions, experiences, environment, and discoveries have to change. If educators want students to build creative capacity, they need to present more equitable and accessible models of creativity. SEED provides a practical framework for facilitating this kind of learning. SEED also acts as a tool for visualizing the level of activity in each pathway; underutilization is immediately visible to both the educator and learner. This visualization provides a foundation for conversation, feedback, and next steps in process improvement.

SEED is not a blueprint for creativity. There are no rules that require the use of a set formula or a list of rigid instructions; rather, it is a practical, flexible, and process-driven framework that guides student exploration and empowers learners to visualize creativity in a clear and meaningful way. The framework responds to contemporary concerns about equity and access in educational innovation and creates a space for people to consider an array of possibilities that help them construct new meaning and break barriers. This framework allows hesitant creators to gain confidence and take action so they can build a creative identity. The framework also accelerates the effectiveness of seasoned creators by leveraging factors that improve idea development. SEED is an actionable framework that empowers all students to become change agents of their world, and a resource specifically designed to incorporate equitability, inclusivity, and justice as considerations in the creative classroom.

Looking Ahead . . .

If the ultimate goal of education is to help students construct the best possible future, then educators need to construct a new vision for creativity. As our world gets more complex, the problems in our societies also get more complex. In order to realign our societies to a place that allows all people to thrive, we desperately need students who know how to build and expand ideas. SEED orients all learners to the possibilities they have to offer the world and the different pathways they can take to get there. The frameworks, questions, and possibilities we reference in the classroom will determine what our students see when they engage with the world. SEED unearths latent creativity, invites everyone to the table, and offers a new and practical solution for creativity. As educators, we must inspire all students to become active transformers of the world in an intentional, productive, and equitable way.

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