

# Creativity

As Visual Thinking:

## MOBILE ART SCHOOL IN KENYA

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By transforming education to focus on nurturing creativity, we can better ensure that our students are receiving the best preparation for a future of rapid change.

Technology in the 21st century advances at a rate equivalent to a millennia of change being compressed within a single lifespan. This brings both great opportunities and considerable challenges. To adapt and succeed in this environment, young people need strong creativity—the source of powerful intellect, resilience, and work ethic. They will have to imagine new alternatives, mastermind breakthroughs, and perform creative tasks. Their creative intelligence is our only hope for a better future.

Creativity is the new socio-economic model; innovation is the new infrastructure. Teaching for creativity, therefore, must be a priority. Yet, current education systems fail to enable students to think and act creatively, with negative consequences for societies and economies that will last for decades.

Education systems still teach children to become good workers rather than creative thinkers and attempts to modernize education have been insufficient. Policymakers still believe that literacy and numeracy equal economic prosperity, while creativity does not. They are unaware that “illiterates” in the 21st century are those who cannot innovate. They trust that the STEM subjects are the silver bullet for mastering the technological revolution and don’t realize that success of STEM-specific fields depend on creativity. They fear the “danger” creativity poses to conformity and social obedience and lack the understanding that creative force is constructive when encouraged and destructive when suppressed. They fail to understand creativity.

### What Is Creativity?

In short, creativity is the ability to effectively solve problems with new nonroutine ideas. But the more important questions to ask are:

How do creative people generate new ideas? What special cognitive abilities do they possess? This knowledge can have a profound effect on education and, therefore, our future. The

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answer is: Creative individuals think visually. They connect information into new ideas, primarily with the help of their visual system. With visual thinking, the brain forms mental images and uses them for thought.

The cycle of creative visual thinking has three stages—observation, selection, and integration—that work in close unity; all three stages are equal and inseparable. Vision is not inferior to thinking. It is not there to just record the information while the brain does the rest. The visual system is connected with every major part of the brain and integral to all complex brain processes.

- **Observation.** Creative people take in larger amounts of information when observing the external environment.
- **Selection.** They actively and intentionally filter the visual data against a goal or problem and form mental images.
- **Integration.** They consciously transform and manipulate mental images to create new connections, refine new ideas, and plan to implement them.

### Mental Images and Teaching Creativity

Mental imagery is the “flesh and blood” of creative thinking. Understanding its nature is important for devising effective creativity learning. Mental images are a set of propositions about objects or events held in the mind. They are largely visual images. Even auditory, haptic, kinetic, or olfactory sensations are rarely experienced without visual components.

To serve the creative process effectively, however, mental images must have certain properties. They need to be **abstract**—hints or metaphors conceived outside of concrete representation. This can be likened to objects painted by Impressionist artists in just a few brush strokes. They also need to have **structure** in order to be transformed and manipulated. And they need to carry **meaning**—if they fail to represent objects or events as ideas, symbols, or statements, mental images are useless to the creative process.

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## MASK

In 2007, while traveling to Kenya to paint, I discovered that art in the schools was limited and so I founded MASK (Mobile Art School in Kenya, [www.mobileartschoolkenya.org](http://www.mobileartschoolkenya.org)) to champion art for creativity in Africa. Starting as a small mobile unit moving from school to school in rural Kenya, MASK progressed sufficiently to be able to present its work at UNESCO, George Washington University, Woodrow Wilson Center, U.S. Library of Congress, the White House, Nairobi National Museum, and other institutions. When I started, I was told that “creativity is not for Africa’s reality.” A decade later, the Kenyan government made creativity a “core competence” of the basic education curriculum and asked MASK to develop a training framework for its teachers. MASK beneficiaries come from Kenya, Tanzania, Rwanda, Uganda, Malawi, Nigeria, Cameroon, Mauritius, Seychelles, and South Africa.

## MASK Educational Model

The MASK educational model has been a success and can be easily scaled up. Its goal is to strengthen students’ creativity and teach them to apply it in practice. It is based on the following principles:

- Creativity is visual thinking
- Creativity can be learned directly
- Learning activities should be structured, practice-led, and relevant
- The learning environment should be conducive to creativity learning
- Learning outcomes should be shared.

## MASK Curriculum

MASK strives to impart:

- **Positive Beliefs About Creativity.** Students learn to see creativity as a powerful force for change toward a better future and a fun process that excites and empowers the spirit and energy. They take responsibility for their own creativity, and discover the joy of being creative.
- **Creativity Skills.** Visual thinking, idea generation, and team creativity are key skills.

- **Creative Personality.** Students are encouraged to develop creative personality characteristics, such as being proactive and passionate, brave, curious, open to new experiences, confident, ethical, independent, and resilient, as well as to have a strong sense of self-efficacy and self-realization.
- **Practical Creativity.** Students practice the MASK Practical Creativity 5-Steps, a step-by-step approach to being creative and innovative in real life.

## Learning Activities

MASK’s main learning activities are arts-based exercises, creative thinking exercises, and practical problem-solving with a focus on leadership and entrepreneurship. They are delivered through games, role-playing, and “contrived experiences” by our trained facilitators.

**Arts-Based Activities.** Art is the home-ground of visual thinking, and therefore is better than any other subject for teaching to innovate. Art-based activities include painting, drawing, sculpting, making objects and toys, putting on plays, dancing, singing, telling stories, and role-playing. Students use a range of techniques and materials, including recycled and found materials. Art connects to visual thinking in the following ways:

- **Observation.** Students get accustomed to visual complexity by discovering multi-layered dynamics between shapes, lines, textures, sizes, distance, and movements. They learn how to look and train visual memory.
- **Selectivity.** Students analyze visual information and select it against specific goals and challenges. They learn to think abstractly, discern patterns of objects or events, and build structures that can be molded into new identities. They look at objects (problems) from different perspectives, and fuse images with ideas to interpret what they see.
- **Integration.** Students form visual associations and learn to transform them. They

get the opportunity to experiment, improvise, invent, prototype, connect ideas and concepts, think divergently, and deal with failure. They gain in confidence and self-esteem and learn to value an individual outlook.

**Creative Thinking Exercises.** All our creative thinking strategies and techniques, such as “De-structure Imagination,” “Form Analogies,” “Reverse Assumptions,” and De Bono techniques, are also lodged in the visual. For example, when practicing our “Make Connections and Combinations” technique, students work with images cut out of newspapers and magazines, connecting the mental associations that arise from those images.

**Edward de Bono is a Maltese physician, psychologist, philosopher, author, inventor, and consultant. He originated the term “lateral thinking,” wrote the book *Six Thinking Hats*, and is a proponent of the teaching of thinking as a subject in schools.**

**Practical Creativity.** We use the MASK Practical Creativity 5-Steps framework to teach the tools and mechanisms of applying creativity in practice (innovation). Students practice solving problems that affect their daily lives by following these steps:

- They state a problem in ways that encourage creative solutions.
- They generate multiple solutions to problems in teams, mastering the process.
- They evaluate solutions against a set of criteria and practice decision-making.
- They communicate ideas visually and discover how to overcome “resistance to change” from those who might be affected by the ideas.



- They plan to implement their ideas. Because the creative and practical sides of innovation go hand-in-hand from start to finish, students learn to think and act creatively throughout every step of implementation. They improve organizational skills, practice to form partnerships, learn to reward the creativity of their team members, and become aware of the barriers to innovation.

Our students quickly master the approach, displaying their enthusiasm and energy.

### Learning Environment

A skilled facilitator is essential to creativity learning. Our facilitators:

- Ensure a positive emotional climate at workshops. They reiterate the principles of Koinonia at the start of each session (friendship, collaboration, openness, honesty, curiosity, and suspension of judgment—belittling of ideas is prohibited).
- Ensure the learning activities are simple but challenging, focused, and relevant to students. Facilitators encourage experimentation and taking evaluated risks. They help students learn from each other.

As Greek philosophers conversed and debated, they were bound by seven principles of discussion Socrates established to maintain a sense of collegiality. Socrates called these principles *Koinonia*, which means “spirit of fellowship.” These basic principles were:

*Establish dialogue and exchange ideas, think clearly and suspend all assumption, be honest, and say what you think.*

- Ask open-ended questions (e.g., “What can be” and “What if?”), tell thought-provoking stories about innovative role models, and demonstrate inner dialogue during the creative process. Facilitators aim to replace attitudes such as, “This is how we always do things” with “How do we change things to achieve improvement or breakthrough.” They give students adequate time for developing their creative responses and do not intervene too early.
- Ensure that students enjoy learning. Facilitators create opportunities for students’ success early in learning, building their enthusiasm, confidence, and self-esteem. They ensure that students share their learning outcomes (artworks, performance, ideas) at exhibitions and other forms of display in schools and communities.
- Recognize that playfulness, good humor, a sense of fun, praise, rewards, acknowledgment of efforts, and constructive feedback are essential. Facilitators must avoid being distant with students, or reprimanding or criticizing them. They record any feedback in logbooks and a video/photo diary.

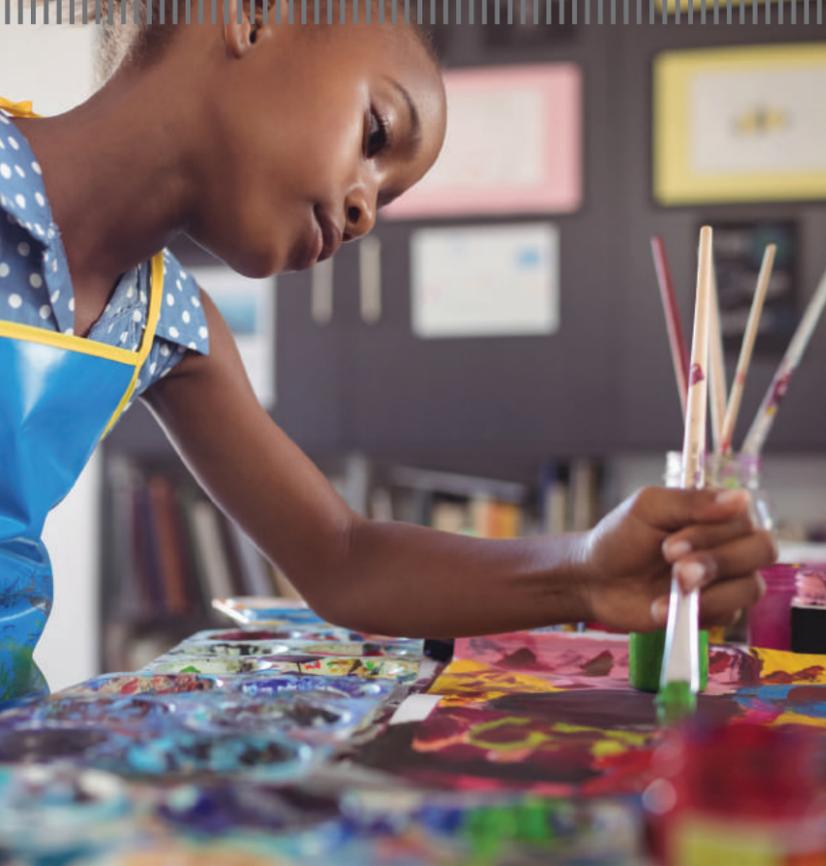
### MASK Programs

MASK has accumulated significant expertise and experience through our programs, which include Creativity Clubs in primary schools, Creativity for Entrepreneurship and Leadership Clubs, and the international creativity competition MASK Prize.

Creativity for Entrepreneurship and Leadership Clubs (CELs) meet 1-2 times a week, for sessions that generally last 1-1.5 hours. CEL seeks to unlock entrepreneurial and leadership skills, help students view entrepreneurship as a possible career option, and ensure they are more work-ready when they leave school.

- **Work-ready.** Companies now seek employees who are creative. Members of the Confederation of British Industry report that “first and foremost” they need creative employees.<sup>1</sup> Young people with only five hours of creativity training increase their employability fivefold.<sup>2</sup>





- **Entrepreneurship.** Nine out of 10 startups fail. Poor problem-solving skills, which relies on creativity, is one of the key reasons for this lack of success.<sup>3</sup> CEL students learn about the nature of entrepreneurship and how entrepreneurs differ from traditional business people.
- **Leadership.** Creativity is the most important leadership quality, according to 1,500 business executives from 60 countries and 33 industries surveyed by IBM.<sup>4</sup> The old “command and control” style gives way to leadership that knows how to spark and lead innovation.

By solving real-life problems, CEL students learn to cope with all aspects of the innovation process. For example, Githirwa Secondary School students devised a clever and comprehensive plan for improving school lunches by farming on the school grounds, solving along the way the problems of monkeys eating the vegetables and hippos trespassing on the farm.

### MASK Prize

Our other flagship project, the MASK Prize, is a pan-African creativity competition with prizes dedicated to igniting and celebrating the creativity and innovation of young Africans. Participants enter their artworks and entrepreneurial ideas online; the most creative work is acknowledged at the annual Award Ceremony in Nairobi. In its 8th year, MASK Prize has been a real triumph. It directly engages

young people across Africa, increasing the public visibility of creativity and art. It has been supported by the Kenyan government, leading African media houses, and international donors such as Rivers Foundation and The Nobility Project. It received more than 8,500 entries, which were viewed by more than 650,000 people at exhibitions in Kenya, the United Kingdom, France, and the United States. “An absolute game-changer for my creative occupation” and “the driver of change in our society,” says MASK Prize participants. MASK Prize hopes to benefit more young people, both in Africa and beyond and seeks partners.

### Conclusion

I started MASK to support young people in their creativity. “MASK developed my habit of innovating. Creativity empowered me beyond my dreams,” explains our former student Helen, who is from a small Kenyan village. While studying chemistry in college, she invented a new drug and now works at a global company in Nairobi. Another former student, Joel, started a few businesses and taught creativity at a local school, telling students and their parents about the “goodness of art.” His village elders asked him for “good ideas” that can improve the community. “I love this creativity! But before MASK came, I did not know I was creative,” says Joel. The benefits for all involved in the MASK project have become more far-reaching than I could have envisaged a decade ago, but such is the nature of creativity.

### Notes:

<sup>1</sup> Education and skills survey, Confederation of British Industry, 2016

<sup>2</sup> Edward De Bono, *Why so stupid?*, Blackhall, 2003

<sup>3</sup> E. Griffin, “Why startups fail,” *Fortune Magazine*, September 2014

<sup>4</sup> IBM CEO survey, 2010

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### The Role of Arts Education

Arts and creativity education plays an essential role in improving the overall quality of education and building a creative and culturally aware society. UNESCO basically promotes two main approaches to arts education, which can be implemented at the same time and need not be distinct:

**1. Learning Through Arts/Culture**—using artistic expressions and cultural resources and practices, contemporary and traditional, as a learning tool, drawing on the rich wealth of culture, knowledge, and skills of societies to enhance an inter-disciplinary approach to learning in a range of subject areas.

**2. Learning in Arts/Culture**—stressing the value of cultural perspectives, multi- and inter-cultural, and culturally sensitive languages through learning processes, promoting the importance of cultural diversity and reinforcing behavior patterns underlying social cohesion.

Introducing the arts and cultural practices into learning environments strengthens cognitive development and the acquisition of life skills—innovative and creative thinking, critical reflection, communication and interpersonal skills—and enhances social adaptability and cultural awareness, enabling them to build personal and collective identities as well as acceptance and appreciation of others.

### Road Map for Arts Education

At the UNESCO World Conference on Arts Education (Lisbon 2006), a conceptual and practical framework, the “Road Map for Arts Education,” was developed to provide advocacy and guidance for strengthening arts education at the country level.

The Road Map aims to:

- Establish a basic framework of understanding of the concept of arts education
- Advocate the importance and essential role of arts education
- Offer strategic recommendations for policy-related decisions and actions in implementing arts education.

The Road Map is available at <http://www.unesco.org/new/en/culture/themes/creativity/arts-education/official-texts/road-map/>

### Arts, Creativity, and Design Thinking Education Programs From Around the World

The following organizations were highlighted by the Global Education Innovation Initiative at Harvard Graduate School of Education (<https://globaled.gse.harvard.edu/arts-creativity/>).

#### Creativity, Culture, and Education

*Website:* [creativitycultureeducation.org](http://creativitycultureeducation.org)  
*Where:* UK based with programs in Norway, Hungary, Netherlands, Lithuania, Korea, Australia, Germany, Sweden, Pakistan, and more  
*Activities:* Creative Partnerships (CP) supports long-term partnerships between K-12 schools and creative professionals, which result in sustainable improvements in the quality of teaching and learning in schools. It is designed to operate within the existing curriculum, enhancing the cognitive, social, emotional, and creative performance of young people. Discipline, motivation, engagement, attendance, and academic achievement improve.

#### Design for Change

*Website:* [www.dfcworld.com](http://www.dfcworld.com)  
*Where:* Global, founded in India  
*Activities:* They offer a K-8 curriculum about design thinking and civics education in public

schools and collaborate with local education authorities in recruiting new schools to participate in their programs and in curriculum development. They cultivate young peoples’ belief that change is possible.

#### Educación para Compartir (Education for Sharing) Sports for Sharing program

*Website:* [educacionparacompartir.org](http://educacionparacompartir.org)  
*Where:* Mexico, USA, Guatemala, Argentina, Dominican Republic, Colombia  
*Activities:* The Sports for Sharing (S4S) is a civic educational program that uses the power of play and sports to encourage elementary and secondary students’ engagement in active citizenship. The program raises awareness about global challenges through the UN Sustainable Development Goals (SDGs) and encourages students to propose solutions within their communities to address local and global challenges related to the SDGs.

#### King Hussein Foundation, National Center for Culture and Arts Performing Arts for Action (PACT)

*Website:* [www.ncca.org.jo/index/php/en/](http://www.ncca.org.jo/index/php/en/); [pactjo.org/eng](http://pactjo.org/eng)  
*Where:* Jordan  
*Activities:* Performing Arts for Action is a regional theater-based training project that provides specialized training in both performing arts and peer health education to peer educators, performers, performing arts educators, artists, youth grades 5-12, and health organizations with basic theater knowledge to deliver effective dynamic messages through performing arts with a focus on theater techniques, to young people on controversial yet important issues related to reproductive health, women’s rights, sexuality education, and prevention of HIV and AIDS.