Spotlight: Creativity

Report

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Contents

The LEGO Foundation

Sir Ken Robinson
1950–2020

Sir Ken Robinson dedicated his career to promoting creativity, innovation, and a personalised approach to learning. In 2011 he was recognised with the LEGO Prize award for his significant contributions.

As a tribute to his hard work, HundrED and The LEGO Foundation dedicate this Spotlight report to him.

We hope that this project will contribute to furthering Sir Ken's vision on fostering creativity education in schools globally.
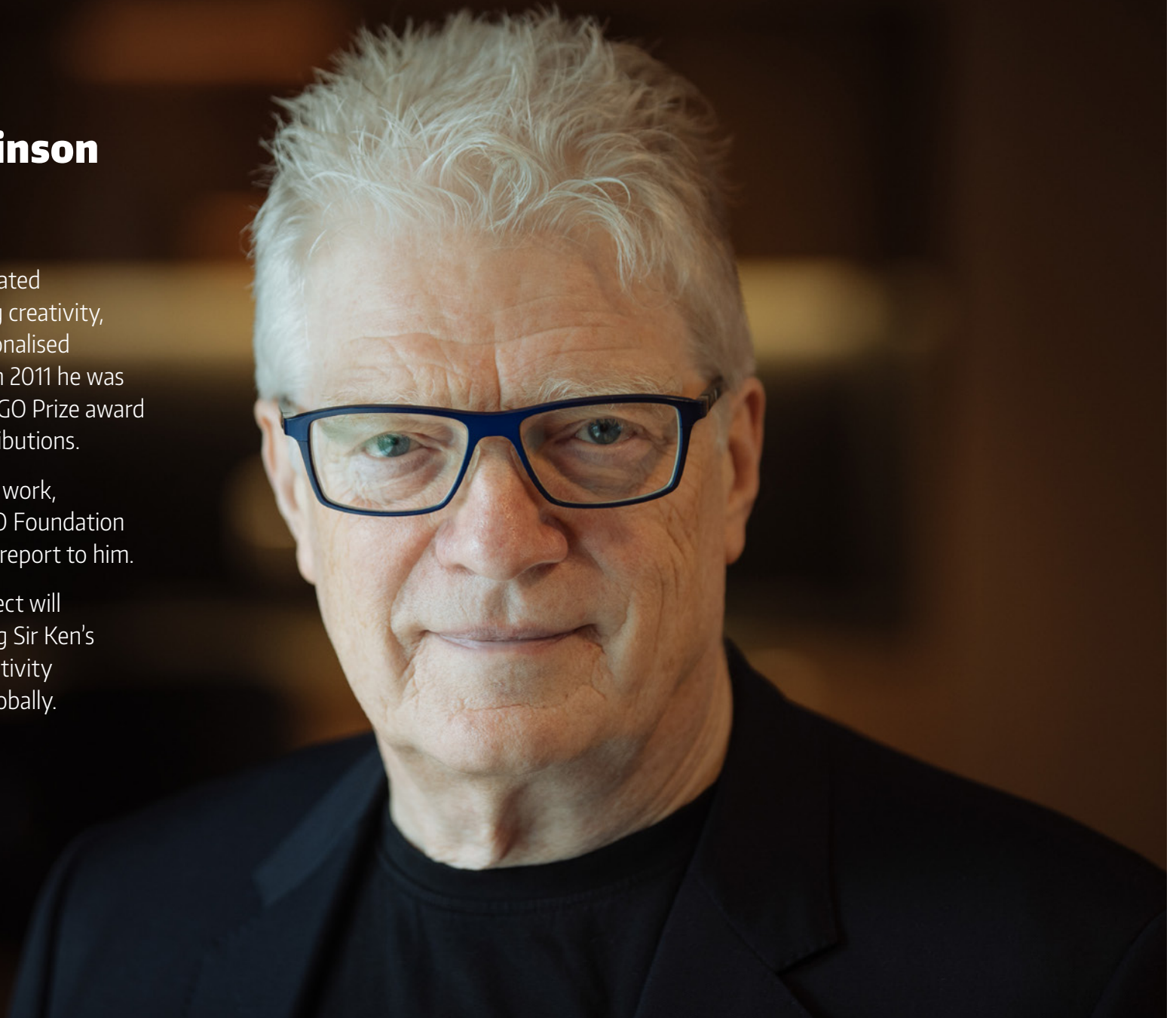
In 2016, HundrED interviewed Sir Ken Robinson for a video series on educational thought leaders and change-makers around the world. Here are a few quotes from those sessions:

ON THE ROLE OF THE TEACHER:

"The heart of education is the relationship between teachers and learners, and everything else should be focused on making that the best relationship possible."

ON HIS FAVOURITE MOMENT IN EDUCATION:

On being told by his high school teacher that he should be the director of a school play on *The Importance of Being Earnest* by Oscar Wilde:

"I nearly passed out, because it had never crossed my mind that I could direct a play or that anyone in the group would agree to it... I was terrified, but you know I learnt a long time ago that you shouldn't walk away from things that trouble you. The best way to deal with fear is to walk straight towards it and try to get hold of it... Partly because of that experience, probably doing what I do now can be traced back to some extent to that little divergent point."

ON HOW CAN A EDUCATION REVOLUTION BE CARRIED OUT:

"I'll say to teachers if they asked me 'how could I change the [education] system?', well the first thing to recognise is that you are the system... if you change what you do, you *are* changing the system."

"There is much more room for innovation within the system as it is than very many people seem to realize."

"The heart of education is the relationship between teachers and learners."

Foreword
from The LEGO Foundation

These are extraordinary times. As governments and educators continue to chart their course for children's education, creativity skills are essential now more than ever. In an age of rapid innovation, technological advance, and ongoing change, children need a diverse set of skills to navigate unpredictable dilemmas and novel opportunities – both in life and in work. The acquisition of knowledge alone is no longer sufficient for them to survive and thrive in this new reality.

At the LEGO Foundation, we aim to build a future in which children become creative, engaged, lifelong learners; equipped to adapt to the volatilities life throws at them. To achieve this, we are dedicated to re-defining play and re-imaging learning to ensure children build the broad set of skills they need to thrive and succeed.

Creativity is a critical skill and mindset, one that is personally meaningful, supports a love of learning, and that all children can develop and practice through play. There is a growing consensus that creativity can benefit children, as well as their communities, societies, and economies at large. The creative thinking that children develop via learning through play can support them in everyday challenges as they contribute to their communities, and eventually as they work to address the world's social, economic, and political issues.

We are encouraged to see that several countries have already begun a journey to reform their public education systems, in order to enhance learners' creativity skills.

Earlier this year, the LEGO Foundation released a report, "Creating Systems – how can education systems reform to enhance learners' creativity skills?," that examined existing work of Australian, Japanese, Thai, Scottish and Welsh policymakers. The report demonstrated a range of key learnings, in particular that partnerships across and outside government are important to strengthen and support education reform.

We recognise countries' desire to better understand how to measure creativity. The soon to be released PISA 2022 Assessment of Creative Thinking promises insights to empower and enable their education systems in developing creative learners.

We also believe that there needs to be a greater understanding on how we foster creativity in schools. The LEGO Foundation is delighted to partner with HundrED to help answer that question, and shine a spotlight on leading education initiatives from around the globe that are fostering creativity. The LEGO Foundation and HundrED share the belief that every child has the ability to be creative, and that ability can be improved as they grow.

During the selection process, we have been overwhelmed by the quality and number of innovations. There is clearly a lot to be learned from those who are driving creativity in their respective communities. In this Spotlight, twenty impactful and scalable innovations are presented as well as three whole school models that exemplify how multiple innovative solutions can work effectively together. These innova-

tions highlight the diversity of approaches to promoting creativity within education systems. They provide practical examples on how schools implement creativity innovations. And they exemplify good practice to foster creativity– from whole school approaches, to design thinking, to teacher training. The report also distils ten principles to guide and inspire educators, leaders, and decision makers to formulate strategies that enable innovative approaches for fostering creativity at a school level.

We want to share these inspiring innovations and principles with policymakers, educators, and parents from around the world. My hope is that we can take these inspiring examples, and work together to ensure that all children can become creative, engaged, lifelong learners.

John Goodwin

Chief Executive Officer,
The LEGO Foundation

Foreword
from HundrED

Without a doubt, 2020 has seen the largest ever impact on education globally. The disruption of the COVID-19 pandemic has forced educators everywhere to adopt and adapt new ways of teaching and learning at a speed like never before. Sadly, we know COVID-19 has also resurfaced and exacerbated existing inequities that will have consequences we are only just beginning to fathom. Fostering creativity, in particular, with the playful freedom devoid of restrictions like social distancing, strict hand-washing routines, and face coverings may seem like a nostalgic luxury for many right now. On the other hand, there have been many silver linings, like teachers and students forming stronger relationships with parents around learning. Meanwhile, as The LEGO Foundation's recent Creating Systems report highlighted[1], we are beginning to see some early adopters of creativity education at a systems level, enabling innovative practices and solutions to develop and thrive much more in Australia, Japan, Scotland, Thailand, and Wales.

We know that there are no silver bullets to solving education's big problems. We also know we especially need cooperation and collaboration across multiple levels for lasting change; from governments to teachers at the coalface. With this in mind, we see this Spotlight on Creativity as complementary to the Creativity Matters series by The LEGO Foundation. In particular, this project could be seen as the other side of the same coin; with policy that enables innovation on one side, and this Creativity Spotlight report focused on activities at a grass roots implementation

> At HundrED, we believe that every child should always have access to quality education, no matter what happens.

This report has five chapters, first starting with background literature related to creativity education, briefly touching on: 'What is Creativity?'; identifying its 'Major Challenges in Schools'; and looking into 'Environments for Creativity to Flourish'. In Chapter 2, a collection of voices from current students, teachers, and education leaders from many continents is presented in order to showcase a diverse range of perspectives on what is needed as well as ideas to address these needs for fostering creativity in their context. Chapter 3 presents an overview on the methodology for selecting and reviewing the spotlighted innovations. Each selected innovation with a sample of their review data is presented in Chapter 4. Finally for Chapter 5, patterns that emerged across each section are brought together with 10 key recommendations for policy makers, education leaders, and teachers.

At HundrED, we believe that every child should *always* have access to quality education, no matter what happens. This belief is especially important today when we are in danger of reversing many decades of progress on the 4th United Nations Sustainable Development Goal. It is our hope that this project will: (a) spark and amplify international cooperation to take concrete action on fostering creativity with these leading innovations and learnings yielded between governments, leaders, and teachers; and (b) as a result of these actions from our global community of stakeholders in education, help the selected innovations increase their impact and reach. However, we cannot hope to achieve these ambitions alone. It is up to all of us to take inspiration from this report to our local community. Let's cooperate and collaborate together on turning the ideas presented here into *action* so that we can help every child develop the creative skills they need to flourish in life.

level on the other. As John Goodwin pointed out in the aforementioned LEGO report[2], policy makers often ask if an idea has been tried elsewhere when they are considering something new. This report provides concrete answers with 20 leading practices and solutions already impacting millions of students and educators across the globe. These examples include themes such as: fostering creativity through a growth mindset, empowerment through cultivating the confidence of one's inner voice, interdisciplinary embodied learning, design thinking and many more. We think the innovations celebrated here generate a wealth of noteworthy activity at a school level and are role models of exceptional practice in fostering creativity.

Unfortunately 2020 has experienced a great loss for education, and the education of creativity in particular. Sir Ken Robinson's contribution is immense to generating discussion and recognising the need for change so that everyone's creativity is fostered and not diminished in schools. The massive groundswell of support from his career that spanned more than three decades is only just starting to result in systemic change now. We will miss him dearly not only for the significance of his life's work, but also his entertaining character and special ability to infuse Liverpool style humour while conveying big ideas in education for everyone to understand. We intend this Spotlight on Creativity as a dedication to Sir Ken Robinson and as a contribution to furthering his vision. To this end, our commitment is to turn the ideas revealed here into action in order to improve the quality of education through fostering creativity globally.

Christopher Petrie

Head of Global Research, HundrED

Introduction

In our modern world, creativity skills are in high demand. For example, creativity was evaluated in January 2020 as the #1 top skill by Linkedin.com for the second year in a row, revealed from their network of over 660+ million users and 20+ million professionals in surfacing the top 15 skills employers want[3]. It is clear we need to develop our creative capacity for solving problems in the future both small and large. However, creativity is also important for our holistic development and love of learning, to not only navigate through the complexities in our modern world as individuals, but through cooperation and collaboration, develop our social emotional skills to live more fulfilling and connected lives.

Sir Ken Robinson's 2006 TED talk "Do schools kill creativity?" was a clarion call that sparked a groundswell of support to foster creativity[4], which has since become central to discussion around school change globally. Today, almost every educator now agrees that we need to consider creativity as a fundamental skill to be cultivated in schools. The question is how.

HundrED and The LEGO Foundation have teamed up to answer that question. From November 2019, we have been discovering and researching the most effective education initiatives from around the globe that are fostering creativity at a school level. We are very proud to present this research report as a culmination of that work.

PURPOSE & AIM:

HundrED and The LEGO Foundation believe that *all* children are born with special creative capacities. Furthermore, we also believe that fostering creativity should not be presumed only in the domain of the arts teacher, but *all* educators, united together by bold visions from many fearless leaders.

To this end, the purpose of this project is to shine a spotlight, and make globally visible, leading education innovations from around the world doing exceptional work on developing the skill of creativity for all students, teachers, and leaders in schools today. It is our hope that this project will:

a spark and amplify international cooperation to take concrete action on fostering creativity with these leading innovations and learnings yielded in this project between governments, leaders, and teachers; and

b as a result of these actions from our global community of stakeholders in education, help the selected innovations increase their impact and reach.

FIVE CHAPTERS MAKE UP THIS REPORT:

Chapter 1 – Background: A background of current literature sets the stage on creativity in school education today, touching on: 'What is Creativity?'; identifying its 'Major Challenges in Schools'; and looking into 'Environments for Creativity to Flourish'.

Chapter 2 – Visions for the Future: A collection of voices from current students, teachers, and education leaders from every continent is presented to showcase a diverse range of perspectives on what is needed as well as ideas to address these needs to foster creativity in their context.

Chapter 3 – Methodology: An overview of the methodology for selecting and reviewing the spotlighted innovations.

Chapter 4 – Selected Innovations: Each selected innovation with a sample of their review data is presented. Information to find out more is also included.

Chapter 5 – Concluding Remarks and Recommendations: Patterns that emerged across each chapter are brought together with 10 key recommendations for policy makers, education leaders, and teachers. Finally, we ask "What happens next?" with our proactive plans for fostering creativity with the results here beyond this report.

THE LEGO FOUNDATION

The LEGO Foundation aims to inspire and develop the builders of tomorrow; a mission that it shares with the LEGO Group. The LEGO Foundation is dedicated to building a future where learning through play empowers children to become creative, engaged, lifelong learners. Its work is about re-defining play and re-imagining learning. In collaboration with thought leaders, influencers, educators and parents the LEGO Foundation aims to equip, inspire and activate champions for learning through play.

HUNDRED

Finland based, not-for-profit, HundrED, discovers, researches and shares inspiring innovations in K12 education. Their goal is to help improve education and foster a movement through encouraging impactful and scalable innovations to spread, mindful of context, across the world. HundrED Spotlights create unique opportunities for both educational professionals and independent organisers of the Spotlight to gain a thorough insight into the education innovations taking place in either a specific area of education, like literacy or sustainability, or within a certain geographic location, for example, India or London. For each Spotlight, we select the brightest education innovations, which then undergo a thorough study by our Research Team and an expert Advisory Board. HundrED Spotlights are organised with partner organisations, who help from their area of expertise.

HundrED's Mission

INTRODUCTION

The world of education is full of inspiring innovations, yet they struggle to spread beyond their immediate environments. This is why we exist. Our mission is to help every child flourish in life by giving them access to the best possible education innovations.

Since 2016, HundrED has been conducting rigorous research in all continents, selecting 100 inspiring innovations annually and sharing our Global Collections with the world, for free. All of the insights and selected innovations are documented, packaged and available to global educators through our website and reports.

HundrED Creativity Manifesto

The purpose of education is to help every child flourish, no matter what happens in life. In a fast changing world, focusing on traditional academic skills will remain important, but that is not enough. To thrive as global citizens in the modern world, children must develop their creativity.

Creativity is crucial to solving problems in the future. We believe that every child needs to, and can, develop this skill and mindset, not only to cultivate desirable career attributes (e.g. STEAM, design thinking and entrepreneurship), but also for their holistic development (e.g. developing the confidence to express oneself authentically and community building).

Teachers also need to develop their creativity if they are to build and manage effective learning environments. And we need ways to develop leadership that creates and supports a vision for creativity at every level of our education system.

To make this happen, we believe we need to help ambitious, impactful and scalable education innovations that are already effective in many contexts.

At HundrED, we have found that the world of education is full of hard-working innovators who are making this happen every day. Our mission is to help their impactful innovations to improve education globally.

Theory of Change

1. Identify Innovations

Over 1 500 innovations submitted from more than 120 countries

Academy of education experts review and select innovations for all collections

3. Help Innovations Spread

Ambassadors in over 100 countries share innovations locally

We directly connect innovators with growth opportunities

2. Change the Tone

Positive message of change drives 40 000 web visitors per month

Innovation pages have been viewed over 1,3M times

4. Implement at Scale

Combine innovation expertise with system-level needs to create sustainable improvements

Completed various education projects on every continent

RESEARCH

COMMUNITY

CHILD

MEDIA

SERVICES

10 Guiding Principles to Foster Creativity

We discovered 10 major principles to follow from recurring themes that emerged across all chapters. These principles are paired with the selected innovations that exemplify each principle in Chapter 5, which we hope will guide and inspire educators, leaders and decision makers to formulate strategies that enable innovative approaches for fostering creativity to thrive in schools. A summary of these are presented as follows:

> We hope these 10 principles will guide and inspire educators, leaders and decision makers.

1

CULTURAL INCLUSIVENESS WHEN DEFINING CREATIVITY

We all need to ask who gets to decide what creativity is and why. If an education system adopts a definition that does not consider a diversity of cultural perspectives, there is a danger that they may miss important differences about what it means to be creative: for example, the importance of collaboration and co-creation can be neglected. Moreover, some definitions could be biased towards over-valuing particular dimensions over others (divergent thinking and products/outcomes for example).

2

RECOGNISE THE IMPORTANCE OF INTRINSIC *MOTIVATION* AS BEING CENTERED AROUND A GROWTH MINDSET, SELF-EFFICACY, AND A SENSE OF AGENCY

Saku Tuominen, Creative Director at HundrED states that "One of the biggest challenges is that we tend to undervalue and undermine the role of will. Fundamentally everything else is secondary. If there is no will, real motivation, and self-efficacy, nothing meaningful happens creatively". For example, while the inclusion of creativity at a curriculum level shows a positive shift in mindset at the top-level, it does not mean a lot if concrete changes to include more *student voices* are integrated into teaching and learning.

3

FOSTERING CREATIVITY IS EVERYONE'S BUSINESS (NOT JUST THE ARTS TEACHER)

For creativity to become more integrated into school systems, we need to think much broader than the art room. This idea is easier said than done as we should give teachers the time and resources to adopt and adapt modern pedagogies in their area of expertise.

4

PUT LESS EMPHASIS ON PROMOTING CREATIVITY FOR CAREER READINESS AND MORE ON THE JOY OF LEARNING

The push to include creativity in school education is often rationalised through being prepared for the skills needed in the modern workforce. However, we think creativity education should put more emphasis on increasing confidence and the joy of learning for its own sake.

5
CREATIVE PARTNERSHIPS SHOULD PROVIDE RICH LEARNING EXPERIENCES OUTSIDE OF SCHOOLS
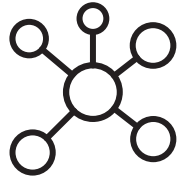
Creativity in schools is unlikely to reach its full potential if learning primarily occurs within its walls. Partnerships with various opportunities outside of school will be essential to provide a rich array of new learning experiences for children.

6
SOCIAL-EMOTIONAL AND CREATIVITY SKILLS ARE LINKED; THIS CONNECTION NEEDS TO BE CONSIDERED WHEN FOSTERING CREATIVITY

Many approaches to creativity primarily focus on individual skills like divergent thinking. How students cooperate through collaboration, however, is at-least as important for both holistic development and how they may apply creativity later in life.

7
WE SHOULD DESIGN TEACHING AND LEARNING THAT ALLOWS FOR UNCERTAINTY IN SCHOOLS
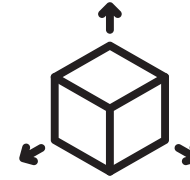
Creativity can and should be integrated into traditional educational programming, but it is unlikely to thrive if teaching and learning is dominated by predefined outcomes with highly scripted and linear learning paths. By designing more activities that allow for uncertain outcomes and learning paths, we can enable students to engage in learning much more creatively.

8
CREATIVE ENVIRONMENTS NEED TO ALLOW FOR STRUCTURED UNCERTAINTY, EXPERIMENTATION, RISK TAKING AND THE BREAKING OF CONVENTIONS SAFELY

Educators need practical solutions that enable environments that allow students to explore with these characteristics. Mitchel Resnick* offers some guidance here: activities being implemented in an environment need to allow for *wide-walls* – where a diversity of approaches and outcomes from students needs to be seen for the teaching and task design to be considered successful.

9
WE NEED TO TREAD CAREFULLY IF WE INTRODUCE THE ASSESSMENT OF CREATIVITY

While there are many open questions, issues, and concerns around the assessment of creativity, there are possibilities that research has revealed with interesting results. For example, The Torrance Test for Creative Thinking (TTCT) assesses divergent thinking and other problem solving skills with the four scales: fluency, flexibility, originality, and elaboration. However, we need the right framing when introducing these measures in order to avoid the possibility of constraining creativity only within these dimensions. At the same time, we need to be careful that student, enthusiasm, motivation and self-confidence to be creative is not diminished.

10
THE TRAINING OF TEACHERS AND LEADERS WILL BE ESSENTIAL IF CREATIVITY IS TO BE FOSTERED EFFECTIVELY IN SCHOOLS

The development of learning plans that allow for a diversity of individualised responses from learners is inherently more demanding and resource hungry than traditional teaching methods of a pre-defined syllabus testing for comprehension, memorisation, and technical skills. Educators primarily need the time and resources to adopt and adapt modern pedagogies that foster creativity in their area of expertise.

Background & Context

What is Creativity?

Today, creativity is commonly perceived as a uniquely human skill that distinctively sets us apart from modern technologies like artificial intelligence and robots[5]. Well known works in the arts like Michelangelo's David, Beethoven's 5th Symphony, and Shakespeare's King Lear are revered as exemplars of creative genius. Indeed, creativity is biased towards the arts in the West, stemming from the immortalisation of Roman and Greek mythology with great literary works like Homer's Iliad, right through the Renaissance, Romanticism, Modernism and Postmodernism cannons[6]. The 17th and 18th century European intellectual movement highlighted another way to be creative when solving practical and functional problems[7].

Vlad Glăveanu[8] reduces these distinct periods in human creativity as the roles of the artist (romanticism), inventor (enlightenment), and craftsman (modernism), historically with the view that "creative abilities are hereditary rather than developed through education" (p. 28)[9]. For example, stereotypical depictions of the creative geniuses having a 'eureka' or 'light bulb' moment, like Einstein with his Theory of Relativity fabled as suddenly having its solution while looking at Bern's medieval clock tower (see Figure 1), have entrenched a nature over nurture mindset that tends to ignore any preceding skill training and thinking[10].

Perhaps in-part for this reason, innovation in education that fosters creativity as a skill that *can* be developed has been largely missing with the rise of school education in the last two centuries[11]. In the last two decades, however, the stereotype of

Figure 1. Bern's medieval clock tower "Zytglogge" Retrieved August 2020 from: https://commons.wikimedia.org/wiki/File:Zytglogge_de_Berne.jpg.

creativity as a special ability few people are born with has been significantly eroded in public consciousness. Thought leaders like Sir Ken Robinson's most watched TED talk *Do Schools Kill Creativity?*[12] with over 65 million views to date and the 10000 hours to mastery theory popularised by Malcom Gladwell's 2008 bestseller *Outliers*[13] have helped to convince us of the idea that creativity is a skill we all possess and can improve upon.

In education research on this idea of democratising creativity, Beghetto and Kaufman argue educators should use a new category of creativity more appropriate for its development in schools, where everyone starts at a 'mini-c' mindset of creativity, which is defined as the "novel and personally meaningful interpretation of experiences, actions, and events" (p. 73)[14]. Mini-c creativity is popular amongst educators because it illuminates the creative decisions children (and grown-ups) already engage with in their daily lives.

While we can mostly agree that everyone has creative abilities that can be improved upon with practice, this dismantling of the 'creative genius' still does not address the intrinsic drive and sustained motivation needed for teachers and students in schools to change. Saku Tuominen, Creative Director at HundrED, argues that "In order to be creative you need to have two things, both a *will* and a skill to improve something. When we want to enhance creativity, we have to concentrate on both, one is not enough. The will is all about growth mindset, self efficacy, a sense of agency".

Growth mindset is a popular term coined by Carol Dweck, explaining that when students *believe* they can improve, their learning efficacy indeed improves to a greater extent because more time and effort tends to be put in[15]. Moreover, developing student self-expression is essential to agency and confidence, which are often not meaningfully integrated into learning. A strong will can be cultivated through exploring and developing intrinsic passions and interests[16]. In turn, all educators need these ingredients and the time required for adopting and adapting to both effective pedagogy and environments that cultivate curiosity and exploration.

DEFINING CREATIVITY

Arriving at a widely agreed upon definition of creativity is challenging. Runco and Jaeger are often cited in academic literature (almost 1700 citations to date), suggesting the standard definition of creativity requires "both originality and effectiveness." (p. 92)[17], and goes on to explain that it can be the *process* of making both original and useful/effective outcomes/products. The LEGO Foundation expands on what could be meant by this, defining creativity as the "iterative process of connecting, exploring, and transforming the world in both new and meaningful ways."[18] (p. 3). Mitchel Resnick[19] reinforces the idea of iteration and theorizes how it could be achieved effectively with a *creative learning spiral*, consisting of the five processes: imagining, creating, playing, sharing, and reflecting. This spiral is pro-

posed to be facilitated by projects, passion, peers, and play as 'four ps' to guide teaching and learning in the future. The related meta-cognitive skill of creativity is creative *thinking*, where the OECD defines it with the generation of ideas and solutions: "the competence to engage productively in the generation, evaluation and improvement of ideas, that can result in original and effective solutions, advances in knowledge and impactful expressions of imagination" (p. 8)[20].

Defining the scope of creativity and related terms arouses passionate debates that deeply reflect personal experiences, perspectives, and cultural values[21]. For instance, all the literature cited in the previous paragraph is from the west and tends to imply value in individual achievement perhaps as a means of standing out with originality. By contrast, Confucianism philosophy in the east for example, discourages individuality and standing out – instead emphasising the seemingly discordant ideals like collectivity and interdependence[22]. Moreover, standardised definitions are in danger of constraining creativity towards producing products or final outcomes only rather than cultivating a *skill*, *process*, *mindset* or *way of thinking* [23, 24]. Nevertheless, there is much more agreement on the necessary conditions for creativity, for example:

· the possibility to take risks, experiment, fail without consequence, and break 'rules' or conventions
· uncertainty needs to be present with no pre-defined outcomes
· the possibility to redefine or 'pivot' to changing the questions being asked or the problem
· where there is no notion of a singular 'right' answer but possibilities of many potential solutions appropriate for different circumstances and situations. [25, 26, 27]

Figure 2. The Teaching Confucius.
Portrait by Wu Daozi, 685–758, Tang dynasty.
Public domain retrieved from:
https://commons.wikimedia.org/
wiki/File:Confucius_Tang_Dynasty.jpg.

Major Challenges in Schools

Rules, testing, strict timetables, and the siloing of subjects are just some of the systemic foundations that enforce conformity at the expense of creativity and innovation in schools[28]. If we reflect on the desired protocol of expected behaviour for a student from kindergarten to high school, obediently following instructions without complaint for example, it is fairly obvious why creative confidence is reduced to a distant glimmer by the time many of us reach adulthood. Educational research suggests that the inflection point can often be around middle school, when young people entering their teenage years are dealing with the sudden onslaught of increasing expectations to perform in standardised tests, focus on building skills for a particular career, and a decrease of free time to play – to name but a few [29, 30, 31]. Moreover, this is all occurring when young people are rapidly developing physically and mentally; for example, puberty (physical) and having just started to develop metacognitive abilities (mental) to reflect about their process of learning, self-regulate, and form an identity [32, 33].

Meanwhile employers from technology industries especially, are saying they don't get the applicants for vacancies that have the skills they need today; for example, a developed ability to collaborate with diverse teams on creative solutions that draw novel connections across domains is evidently hard to come by in new graduates [34, 35]. The current education system is simply not set up to value thinking in this way. If we now draw our attention to the later end of education systems today,

getting accepted into the range of higher education institutions on offer has become a major focus for many teenagers, parents, and closely monitored metric for high schools. In the last 50 years, this increase of students in tertiary institutions has in-part contributed to academic inflation (along with student loans) where a Bachelor's level degree can be seen as a requirement before entering many higher paying professions [36, 37].

However, the arguments for fostering creative development in schools should be much more than preparing young people for their career in what has been called a volatile, uncertain, complex and ambiguous (VUCA) world. We think students should graduate from school with a great increase in confidence and joy of learning for life, rather than a lack of confidence and strong dislike of learning all too common by the time most leave. Additionally, fostering creativity in schools can also help holistic development like social-emotional skills to make new friends and build larger support networks, which are known to contribute significantly towards happiness and satisfaction throughout life [38, 39, 40]. Impactful and scalable education innovation and policy that enables practices and solutions with these characteristics will be important to identify and support to foster creativity in schools. Implemeting more learning through play is one impactful and scalable solution.

As Sir Ken Robinson famously declared "we are educating people out of their creative capacities" and instead meeting the needs of a time long gone that demanded a standardised assembly line of employees for the rise of factories in the industrial era[41]. Fast forward to November 2020, developing creative skills is now seen by many as important as literacy in order to continuously adapt to an unpredictable future [42, 43, 44].

This section focused on major challenges in schools and is intended as an overview to some of these issues. However, before concluding, there are many other factors worth mentioning briefly that are beyond the scope of this report:

- Students are often punished for failure, impulsiveness, risk-taking, experimentation, and mind wandering; all necessary for the development of creative abilities [45].
- Schools are extremely structured environments; unstructured time (e.g. time for playful learning) is becoming much more rare [46].
- Student voice is either ignored or not meaningfully integrated into teaching and learning [47, 48].
- A high ratio of passive learning as teacher instruction or where the student is 'watching' rather than actively engaging and participating [49].
- Emphasis and value on rote learning is still prevalent in many education systems [50, 51].
- There has been a proliferation of standardised high stakes exams and testing in the recent decades: For example, the average United States public school student takes 112 mandatory tests between pre-kindergarten and high school graduation (p. 25)[52]
- Predetermined exercises where the answer is already decided (e.g. fill in 'blank' worksheets) are too common and take up much learning time [53].
- Subordinate behaviour is fostered over rebellious/disruptive individual expression [54].
- School environments tend to be designed for structure over experiences [55].

Fostering creativity in schools can also help develop social-emotional skills for students to make new friends.

Figure 3. The aeioTU school environment based in Colombia is inspired by Reggio Emilia education philosophy, which considers the child as the main active character of their own learning.

Environments for Creativity to Flourish

"When a flower doesn't bloom, you fix the environment in which it grows, not the flower."

– ALEXANDER DEN HEIJER

While there are challenges and disagreements previously mentioned on creativity to do with its definition and rigid systems in schools, there is much more agreement and knowledge about the kinds of environments that enable creativity to "bloom" for young people in schools. Notably, Mitchel Resnick, LEGO Papert Professor of Learning Research at the MIT Media Lab, argues the greatest invention for positive changes to society in the last 1000 years is the education environment of kindergarten [56]. The first kindergarten was opened by Fredrich Fröebel in 1837 Germany, which was filled with raw materials like blocks that children could create with in an unstructured way. Fröebel's ideas were revolutionary in the early 1800s, centering on a belief previously assumed to be not possible at the time – that children under the age of 7 can in-fact develop cognitively and emotionally through a very different paradigm of learning to traditional school. Rather than enforcing repetitive rote learning and drills, children in kindergarten are encouraged to develop through self-expression, collaboration, and play [57]. Well known alternative education sys-

Figure 4. Students make their own desks at Agora School.

Figure 5. Students interviewing adults at Liger, based in Phnom Penh, Cambodia where students are taught to be change makers.

tems like Reggio Emilia, Montessori, Steiner and others also have student voice, agency, and play as similar guiding principles for creativity development [58].

Learning through play and the development of playful environments (e.g. the rise of maker spaces for 'tinkering') have been promoted as critical to the healthy development of creativity [59, 60, 61]. Drawing on research that links creativity to learning, play has been included in the implementation of creativity in many countries [62]. The Centre of Universal Education at the Brookings Institution Leapfrogging Inequality project also reinforces play to help 'Leapfrog' old and outdated pedagogies of teaching and learning [63]. A Leapfrog pathway by Winthrop and McGivney[64] provides a process to deliver a breadth of skills aligned with the 21st century for systemic change, which includes making room for playful learning. When combined with collaborative and interdisciplinary learning, and being meaningfully inclusive of the student voice as Fröebel's original vision behind the founding kindergartens, these kinds of pedagogical approaches have the potential for impactful and scalable innovation to foster creativity in schools.

With these ideas in mind, innovations that thoughtfully bend and even dismantle some of the structural boundaries of traditional schools to be more like kindergarten, can enable creativity to flourish more. Practically speaking, we consider the

following characteristics are especially important when making effective environments that foster creativity:

- students having control of their learning and ownership of the activity
- flexibility in the physical and pedagogical environment
- varied physical environment at school and elsewhere outside of the classroom and school gates
- allowing pupils to work at their own pace without pressure
- multiple spaces for working collaboratively with their peers
- multiple spaces for working individually as necessary
- availability and visibility of appropriate raw materials to students

Moreover, as with any learning environment, typical interior design considerations such as lighting, air flow, cleanliness, chair comfort, workspace design, colours and more are key as well. Sometimes there is a tendency for educators to cover walls with posters and learning aids that can overwhelm and potentially distract pupils. Regardless of all these practicalities, the nature of the relationship between the teacher and learner is paramount. High expectations, mutual respect, modelling of creative attitudes, and a two-way supportive dialogue are important indicators of these relationships to foster confidence of students' inner creative abilities.

Bold Visions for Fostering Creativity in Schools

Collection of Voices

Education systems in many countries are already pro creativity and mobilising ambitious initiatives to increase the importance of its development. For example, a recent report by The LEGO Foundation[65] (2020) highlighted positive systemic reform in five countries at a policymaker level:

Australia: A curriculum taught from 2005 to 2016 in Victorian Schools known as the 'Victorian Essential Learning Standards' (VELS) had three major strands as 'thinking processes', once of which was creativity.

Japan: In 2006 Japan's Education Act was revised to include creativity as one of its goals. While creativity is explained in this revision as being under the Arts subjects only, it is referred to often in 'supplementary materials'.

Scotland: The Curriculum for Excellence (CfE) implemented from 2010 where creativity was key to develop higher order thinking skills. A review specifically on creativity was also conducted in 2012, which made creative skills, teaching and learning more explicit. Many more developments to integrate creativity into Scotland's schools have been made since.

Thailand: A 20 year National Reform Strategy (to be completed in 2037) is currently underway where creativity is seen as a key 21st century skill.

Wales: With learners being placed as the main focus, Wales is developing a curriculum where creativity is an integral part. Government has worked closely with the Arts Council of Wales to integrate creativity into the curriculum.

From these five countries and many others coming on board, there is no disagreement on the need for creativity to be fostered in schools. Much of this action has been implemented at a curriculum level. However, we need to remember the lessons learnt from top-down only reform efforts in the past that have largely produced ineffective results[66]. Education systems also need to consider and integrate visions of change by those at a local grassroots level, for example: current leaders in schools and other organisations, teachers, and students from a diverse range of contexts. In an effort to provide a small degree of perspective on this, we asked a number of education leaders, teachers, and students from all over the world two questions:

1. What would be at the top of your list to change education so that creativity is cultivated effectively in schools? Why?
2. What do you see as the biggest barrier to this change and how can we best overcome this?

There were many unique ideas across both questions. These responses here are very encouraging because they suggest that leaders, educators, and students can agree on how to effectively foster creativity in schools.

For example, the most common responses across the three stakeholders were to **increase student choice, autonomy and student voice in learning**. Many students and educators said this can be achieved by **involving students much more on how learning is planned and conducted**.

Innovations that implement these kinds of practices and solutions are more likely to be adopted, adapted, and sustained because of this consensus. Many of the spotlighted innovations in this project exemplify these characteristics and are reflected in the 10 recommendations in the conclusion of this report.

In the following pages are their individual answers:

Leaders

1

RAYMOND MITCHEL M. AFRICA / China
IB MYP Science and Design Educator /
Manila Xiamen International School

Q1 **Learning environment** conducive for creative-thinking is deemed essential to develop our young learners creativity. A space where students can enhance their skills in brainstorming ideas, designing and creating projects, and presenting and evaluating their work will promote and unleash their natural creativity. Every 21st Century classroom should be developed as creative learning environments, where students learn any discipline or subject area while cultivating the skills needed to cope with an ever-changing society.

Q2 A traditional mindset and **fear of change** might be barriers in achieving creative learning spaces. If educators and education leaders are anxious to take risks and be bold, we cannot meet this goal of developing creativity among students. Through data- and research-driven work that analyzes positive and beneficial effects of creative learning spaces, we can gain confidence among everyone in the education sector in order to promote creativity in every classroom.

2

LINDA NATHAN / United States
Executive Director /
Center for Artistry and Scholarship

Q1 **Eliminate high stakes testing.** When one test is the way we determine effectiveness and success we severely limit creativity. We are losing some of the best and brightest teachers and denying too many young people a productive future.

Q2 We need to shift the belief that a high stakes test is the only way to ensure accountability. **We do not trust teachers.**

5

LISSETTE ROJAS / Caracas, Venezuela
Co-Founder and CEO, Teacher /
TrixandTrax

Q1 Creativity is cultivated by **connecting students with their passions and talents**. Validating and recognizing their talents gives them the confidence to express themselves creatively and encourages them to reach their full potential.

Q2 The lack of school flexibility and assess-ments that focus on concepts and not in creative solutions where the playing and games practices are left aside. **Empowering students** and giving them voice to introduce these changes is key.

3

NOBURO HAGIWARA / Japan, Australia
Director of Innovation /
Kolbe Catholic College, Western Australia

Q1 The first step is to create co-agency in schools, where all stakeholders take part in designing the learning, teaching, and learning environments. Democratising education is imperative.

Q2 People's mindset and perspective on education and what academic success means to them. The new cycle of life-long learning, to learn, to **unlearn and to relearn**, should be understood.

6

DIVINE KPE / Ghana
Africa Education Watch Fellow /
Africa Education Watch

Q1 Restructuring **teacher education** so that teachers can have the skills and competence on how to integrate and model creativity in their teaching and create a learning experience that students are able to be the constructors of their own knowledge.

Q2 It's **teacher education funding**. Speaking from where I come from, there's little invest-ment in teacher education and I believe it's in so many countries.

4

KEVIN FULLBROOK / Kuwait,
Australia & China
Deputy Director /
Al-Bayan Bilingual School

Q1 There should be much more **choice for students** from a much younger age. Children should be able to choose ideas, topics and concepts to study that excite their curiosity.

Q2 The biggest barrier is **systemic lethargy**. It is hard work to fundamentally change the way in which students engage with their learning. **Fearless leadership** and grassroots excitement is key.

7

DIANE FISHER-NAYLOR / Currently Wales, Ireland, Denmark, Pakistan, Australia, Norway, Chile, Czech Republic
Director of Programmes /
Creativity, Culture & Education

Q1 Creativity needs to **be visible from policy to practice**, be clearly defined and its develop-ment in young people should be central to the overall purpose of school. Why – creativity is what makes great learning happen.

Q2 The biggest barrier is **changing mindsets** and this requires a reimagining of the entire purpose of school – take a look at the ambitious plans for education across all schools in Wales.

Educators

NAMRITA RATHEE / India
Instructional Leadership Coach /
Consultant

Q1 My list topper will be **shifting to project based learning, mixed age grouping and free flowing open spaces** instead of boxed classrooms.

Q2 The biggest barrier is deep **commitment from policy makers towards resources**, teacher quality through **Continuous Professional Development**.

SCOTT ALAN HATT / China
Design Teacher, IB MYP /
Shen Wai International School (S.W.I.S.)

Q1 Integration of subjects, or interdisciplinary projects and assessments would be a positive push towards the cultivation of creativity.

Q2 Horizontal planning takes time.
In the international teaching community, teachers, students, administrators, and policies change often. Designing legacy curriculum which fosters **collaboration between subjects** would ease planning pressures.

BRETT BIGHAM / United States, Bangladesh
Special Education Teacher /
Portland Public Schools

Q1 Every school needs to have all **activities and curriculum adapted so teachers have the ability to teach all kids at their own levels**. Creative projects, by nature, allow kids of all ability to succeed.

Q2 Teachers often adapt and create curriculum for their different learners.
When teachers are given ways to share that curriculum, this benefits all students.

TOMÁS LINARES / Venezuela
Vice-president /
Amblema Foundation

Q1 It would be to allow teachers and students to have **spaces and moments in schools to learn or teach from creativity** and personal amazement and include it within established programs.

Q2 We do not educate from the amazement and creativity of those who learn, but from those who teach. **Train teachers to incorporate creativity** into their own classes and content.

NANAKO SATO / New Zealand
Educator & PhD Student /
Hagley College & Canterbury University

Q1 Focusing on Arts rather than STEM, STEAM movement should be enforced at school so that creative thinking is encouraged. More integration between the core subjects and Arts.

Q2 Teachers are always too busy, way too many paperwork to be filled for the sake of the tick box exercise.

NSABIMANA ZABURONI / Rwanda
Founder and CEO /
Kigali Peace Club

Q1 Creativity is important in education system in most schools, **teachers are not well trained** about creativity and they do not **have enough materials**. Therefore first thing is to train more teachers and second is to provide enough materials.

Q2 The biggest barrier is to see mentors who will **train teachers in all countries and all schools**.

PREETI GAHLAWAT / Sweden
High school science teacher,
Head Of Science Department /
Internationella Engelska skolan, Älvsjö

Q1 Rushing the curriculum leaves no room for creativity. More focus on game-based curriculum where **students get freedom to critically think and problem solve collaboratively**.

Q2 The biggest barrier is **minimum or no time allocation for game-based learning** due to content heavy curriculums. There should be less **content to cover to allow time and space, both, for teachers and students**.

Students

15

MARIGOLD GRACE MIOC / Canada
Foundations for the Future Charter Academy
& HundrED Youth Ambassador 2020

Q1 I would like to have **more control over my learning experience** by being able to have choices in what I would like to study and learn in each class.

Q2 The **barrier is that teachers pick what the students are learning**. It would be better if there was a **more equal relationship between students and teachers** so students can have a voice.

16

ALICE COELHO MACHADO / Brazil
HundrED Youth Ambassador 2020

Q1 **Autonomy and liberty** are the best ways to let creativity flourish. **Students need mainly time and a proper environment** to dedicate to exploring their own ideas and wishes.

Q2 In my opinion, **strict schedules and school calendars are the biggest barries**. We can best overcome that by **changing the mentality surrounding time and necessity to measure and evaluate knowledge**.

17

HUNG, SHOU-YI (RAY) / China
Manila Xiamen International School (MXIS)

Q1 **Interactive teaching.** To foster creativity among 21st Century learners, teachers should be able to "interact" with the students more in class. In learning, students should not be limited to solely books but should be given opportunities for self-discovery and exploration.

Q2 **The concept of traditional teaching.** If we can approach technology and utilize it in every classroom while not avoiding it, creativity will spark in classrooms. Teachers should be bold and take risks because there are still more in technology that can improve education.

18

FOLAKEMI FARIOGUN / Nigeria
University of Ibadan
& HundrED Youth Ambassador 2020

Q1 Top of my list would be to modify teaching methodology in schools such that **learning becomes holistic** because this will make students developed in other aspect of their lives.

Q2 **One barrier is the educational curriculum** and to overcome it is to liaise with the ministry of education to culcate new approach into schools curriculum.

19

WILMA ENGSTRÖM / Finland
Gymnasiet Lärkan
& HundrED Youth Ambassador 2020

Q1 **Teachers and kids should go through the learning process together** as a group with and learn together in real-time, instead of the teacher teaching pre-taught knowledge to the class.

Q2 Old teaching methods, **teachers are expected to know everything**. Let them learn together about new things as a group with the kids deciding creative ways to learn the topic.

These responses here are very encouraging because they suggest that leaders, educators, and students can agree.

Methodology

The Selection Process

Inspired from Everett M. Rogers classic book *Diffusion of Innovations* (2003), we use the following **definition for innovation in education**:

"Innovation in education can be defined as meaningful improvements considered within the place of implementation to a new or modified practice and/or technology that supports any part of the educational ecosystem (for example: skills, teachers, assessment, environment and/or systems, and leadership)."
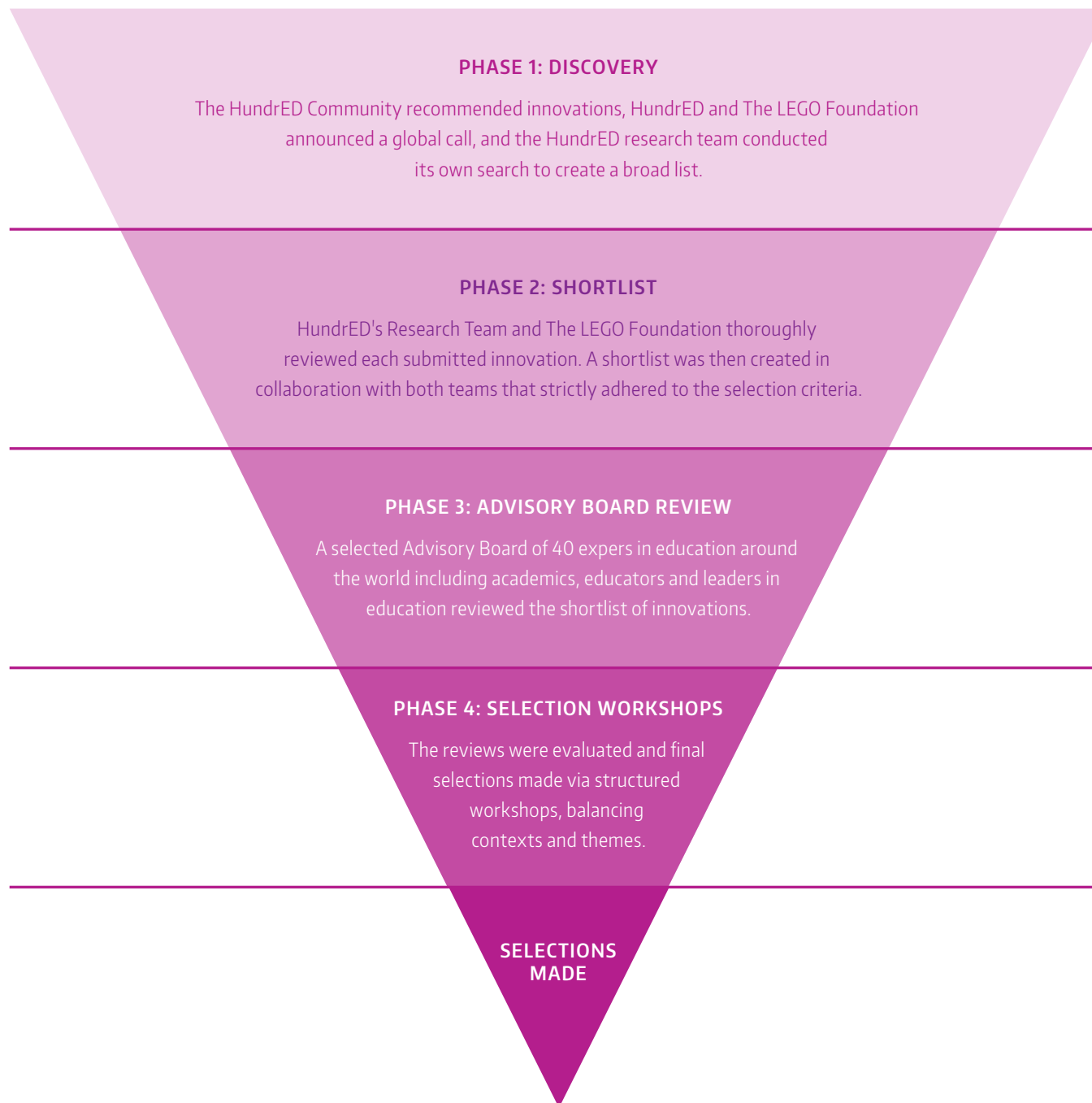
PHASE 1: DISCOVERY

The HundrED Community recommended innovations, HundrED and The LEGO Foundation announced a global call, and the HundrED research team conducted its own search to create a broad list.

PHASE 2: SHORTLIST

HundrED's Research Team and The LEGO Foundation thoroughly reviewed each submitted innovation. A shortlist was then created in collaboration with both teams that strictly adhered to the selection criteria.

PHASE 3: ADVISORY BOARD REVIEW

A selected Advisory Board of 40 expers in education around the world including academics, educators and leaders in education reviewed the shortlist of innovations.

PHASE 4: SELECTION WORKSHOPS

The reviews were evaluated and final selections made via structured workshops, balancing contexts and themes.

SELECTIONS MADE

Figure 6. How we find and select innovations.

The first phase involved discovering leading innovations by our research team with support of HundrED's Global Community, which include methods of: surveys, interviews, and in-depth searches online. The main areas of activity for HundrED's Research Team are outlined in the Figure below:
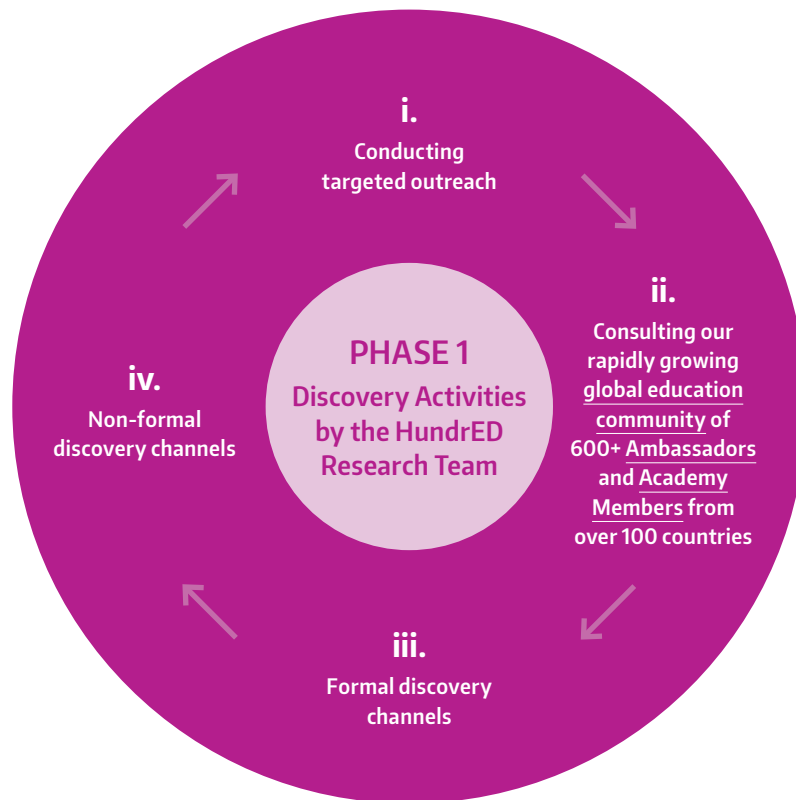
i. Personalised applicant support to potential submissions

ii. The HundrED Community are essential to be our local eyes and ears on the ground where they recommend and report about the best practices and solutions – especially in locations that are difficult to get access to (e.g. rural schools and regions with limited internet).

iii. & **iv.** Activities include but are not limited to:
a) attending major education events and conferences
b) monitoring high profile innovation competitions from around the world
c) speaking with experts in and out of education
d) studying academic and non-academic texts such as peer reviewed journals and blogs

Figure 7. Phase 1: Discovery activities by the HundrED Research Team.

PHASE 2 – SHORTLIST

Is where HundrED's Research Team and the LEGO Foundation thoroughly reviewed each innovation. To be selected for the shortlist, each innovation must have shown evidence for impact and scalability using the following definitions:

Impact: Evaluated as a valuable improvement within the innovation's context. All innovations must have at-least 1-year of being implemented with its intended users.

Scalability: Either the innovation is actively expanding to other contexts or has a high degree of transferability for others to adopt its practice/technology.

Evaluating Creativity

As part of evaluating the impact of innovations, all who participated in the review process considered the document called *What we mean by Creativity* published by the LEGO Foundation.

Creativity: "At the LEGO Foundation, we see creativity as the iterative process of connecting, exploring, and transforming the world in both new and meaningful ways." [67] (p.3)

Creativity & Play: In this document, the LEGO Foundation believe that the creative process is infused with 5 characteristics of Learning through Play (actively engaging, socially interactive, iterative, meaningful, and joyful) and state that:

"When children learn through play, they are given the best opportunity to fulfil their potential to become creative, engaged, lifelong learners." [68] (p.14).

Moreover, we recognised there could be a wide range of views about how to define creativity for each context in school education. In addition to the document by the LEGO Foundation, all who participated in the review process were encouraged to include their perspectives on fostering Creativity in schools while making sure they are inclusive to the cultural diversity in the region(s) they operate in.

PHASE 3 – ADVISORY BOARD REVIEW

We believe that a diversity of experienced perspectives from a wide range of contexts is fundamentally important to our selection process. The Advisory Board consisted of almost 40 experts in education from around the world including current: academics, innovators, teachers, students and leaders in education (see Appendix A). They reviewed the shortlist of innovations over a two week period in May 2020.

The selection process of the Advisory Board was conducted carefully by both HundrED and the LEGO Foundation. We ensured they supported HundrED's mission to help every child flourish in life and a careful balance for a range of experienced stakeholders in education that can offer a valuable perspective on fostering creativity in schools. **Please see Appendix A to see who was in the Advisory Board.**
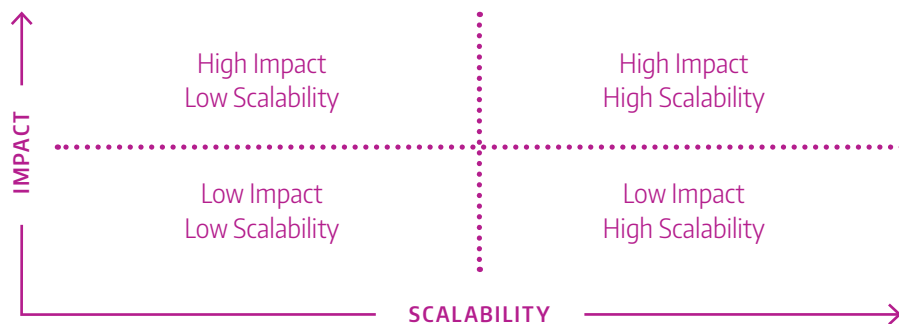
High Impact
Low Scalability

High Impact
High Scalability

IMPACT

Low Impact
Low Scalability

Low Impact
High Scalability

SCALABILITY

Figure 8. The Advisory Board review tool.

Step 1: The factors of impact and scalability were plotted on a graph by each Advisory Board Member using HundrED's evaluation tool, which is divided into four quadrants. We were looking for innovations that the majority of Advisory Board members considered to be highly impactful and scalable in the top right quadrant.

The plots on the graphs below represents a review for one of the shortlisted innovations in this Spotlight.
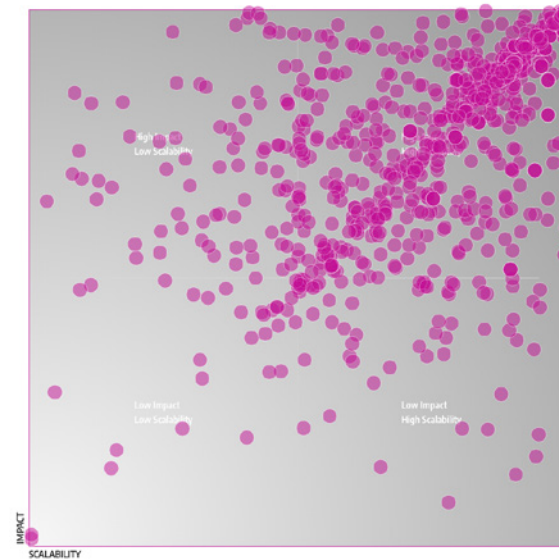
Figure 9. All reviews made by the Advisory Board.

Step 2: Each reviewer also provided specific comments about each innovation that explained their evaluation on our mapping tool.

Step 3: Finally, they recommended if each shortlisted innovation should be selected by selecting **Yes**, **No**, or **Maybe**.

PHASE 4 – SELECTION WORKSHOPS

All shortlisted innovations reviewed by the Advisory Board and were ranked from most favourable responses to the least. Any critical comments were seriously considered first as to whether the innovation should be excluded from the selection process (e.g. the innovation materials may promote ineffective pedagogy).

In Phase 4, the HundrED Research Team and the LEGO Foundation participated in a two-part structured workshop where they selected the innovations to be highlighted in this Spotlight. The challenge in this phase was achieving a balance of highly impactful and scalable approaches and contexts in the final collection.

In both workshops, both teams considered the Advisory Board reviews while aiming to cover a diverse range of: (a) effective approaches to promoting Creativity in education, (b) age levels, (c) target groups (e.g. educators, parents, and students), and (d) educational contexts and geographical spread.

Findings

OVERVIEW OF SUBMITTED INNOVATIONS

247 innovations founded in 55 different countries were submitted and collected.

While fewer innovations were collected from the Global South, we were encouraged by the types of innovations we discovered from there, perhaps tentatively indicating a few societal drivers. For example, many of the innovations collected from Africa involved the development of entrepreneurial skills for young people to solve local problems with creative solutions. As anticipated:

· high numbers of STEAM and design thinking related innovations reflect the amount of investment for these areas,
· fewer innovations were discovered particularly where English is not commonly spoken (particularly Asia),
· Edtech innovations were predominately from countries in the Global North.

After analysis of all the collected innovations, we found the innovations fostered creativity on 17 main themes as the table of percentages below shows (rounded to the nearest full number). **On average, four themes were identified for each** innovation; for example, a solution that focused on STEAM subjects could involve teacher and leadership development. Please see Appendix B for the definitions we used for these categories.

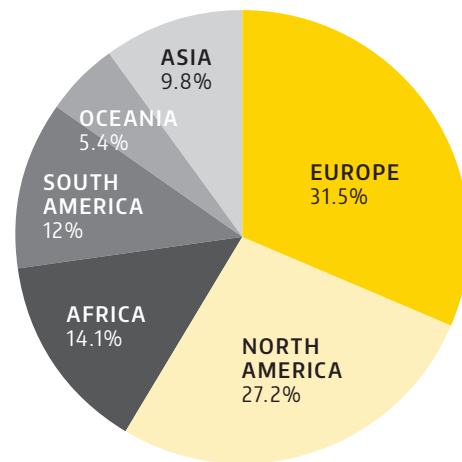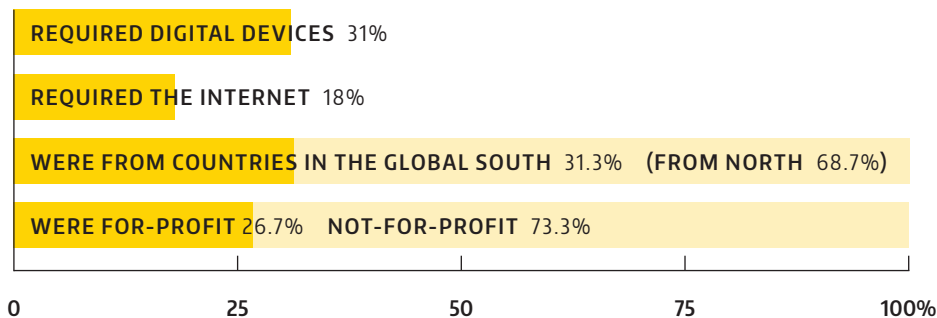|	%
Expressing oneself	78
Traditional school subjects	72
Problem solving	68
STEAM subjects	52
Community Building	48
Desirable Career attributes	48
Design Thinking	47
Learning environments	44
Play	39
Low socioeconomic	32
Global Citizenship	32
Holistic Development	32
Leadership	28
Entrepreneurship	28
Teacher development	27
Mindset	25
EdTech	24

Table 1. Percentage of the 247 innovations that focused on these skills. On average, each innovation focused on four themes.

Figure 10. Percentage of the 247 considered innovations founded in each continent.

	%
Expressing oneself	83
Traditional school subjects	70
Problem solving	65
Community Building	65
Learning environments	65
STEAM subjects	61
Desirable Career attributes	57
Design Thinking	57
Leadership	43
Global Citizenship	40
Mindset	39
Holistic Development	39
Play	30
Low socioeconomic	26
Teacher development	22
Entrepreneurship	21
EdTech	5

Table 2. Percentage of the 20 selected innovations that focused on these skills. On average, each innovation focused on four themes.

1993–2018
ESTABLISHED

——

1–163
COUNTRIES

——

4 000–43M
TOTAL USERS

Figure 11. Percentages from analysis of all 247 considered innovations.

REQUIRED DIGITAL DEVICES 31%

REQUIRED THE INTERNET 18%

WERE FROM COUNTRIES IN THE GLOBAL SOUTH 31.3% (FROM NORTH 68.7%)

WERE FOR-PROFIT 26.7% NOT-FOR-PROFIT 73.3%

0   25   50   75   100%

247 innovations founded
in 55 different countries
were submitted and collected.

Selected Innovations

Please see Appendix C for an easy reference one page overview.
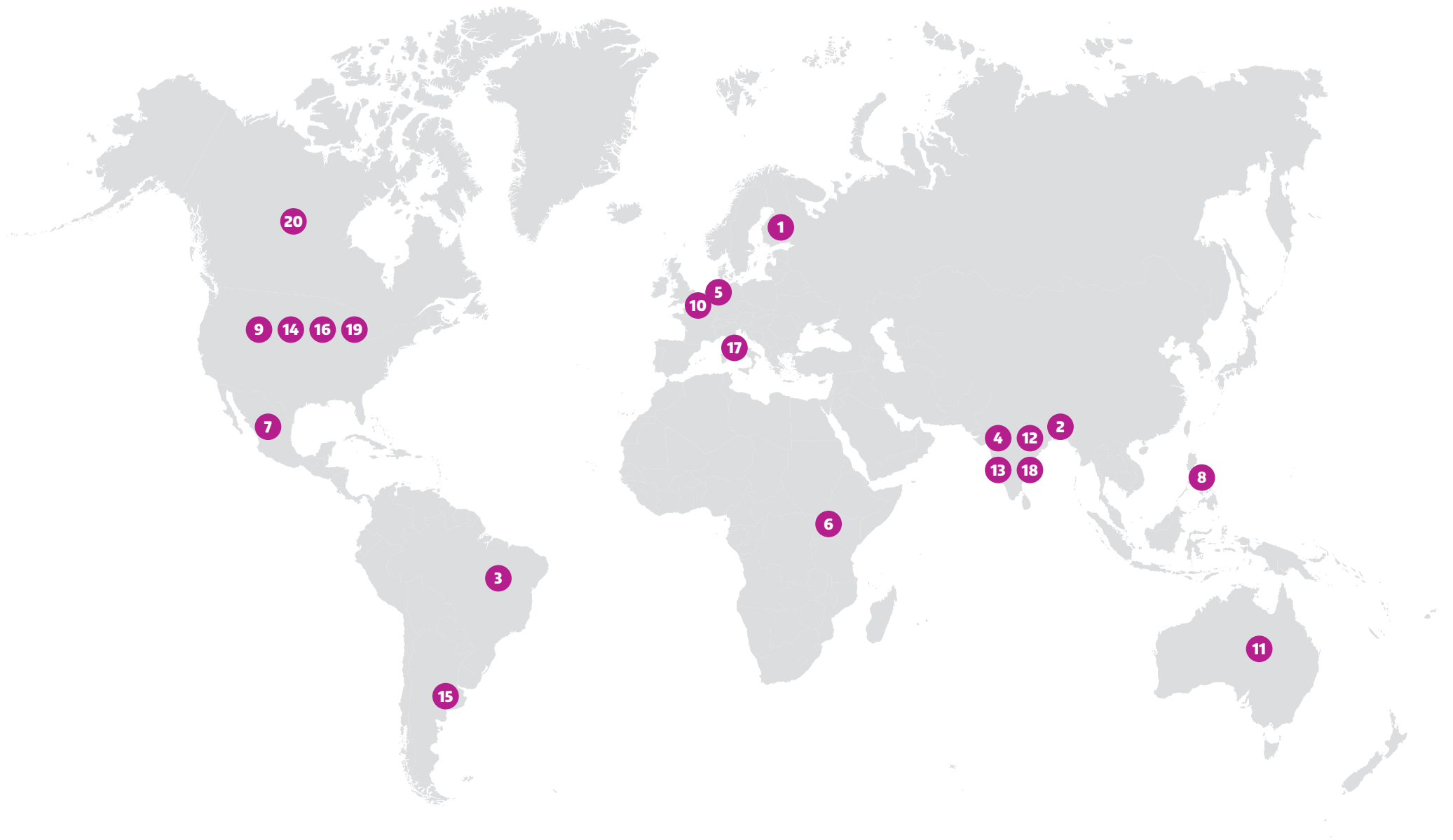
A leading institution in creative education
via architecture and design
for children in the world

Arkki

Arkki International, Helsinki, Finland

Arkki is a School of Creative Education for children and youth where pupils learn general innovation skills through architecture. Our mission is to equip and nurture the new generation with a creative mindset and innovation skills needed into and beyond the 21st century. In 27 years, Arkki has organized thousands of courses and workshops for more than 25,000 children in more than 50 countries.

"I have learnt skills that I can apply
in all fields of life. Arkki project-based learning
teaches us creative problem-solving skills."

– JOOSUA KUUSELA, ARKKI PUPIL, 18 YEARS, FINLAND

ARKKI PROGRAM DEVELOPS INNOVATION SKILLS

Since architecture is intrinsically interdisciplinary, creative education through architecture is an exceptional discipline to develop key competencies like the "5C's" – complex problem solving, creativity, critical thinking, communication, and collaboration.

Arkki program fosters design thinking and enhances the essential higher-order thinking skills needed for the future world of work. Arkki's exceptional pedagogical concepts inspire children to learn playfully through cross-curricular, phenomenon-based and hands-on 3D experimentation projects. Play, Create, Succeed is Arkki's motto.

Architecture offers endless possibilities in being the big A in STEAM education and holistically intertwining science, technology, engineering, mathematics and arts through Architecture. Arkki pedagogical program develops three dimensional and design thinking skills and evokes the imagination and creativity in children and youth.

Arkki's creative education gives children new capacities, means and mediums to influence the creation of our future environment, no matter what their occupation will be.

The program has been developed by Arkki School of Architecture for Children and Youth in Finland for 26 years and can be licensed through Arkki International.

In addition to the long-term program, Arkki also offers workshops, camps, educational visits, social innovation projects and collaborates with international organizations.

Arkki International has received multiple awards and nominations. Recently it has been shortlisted for the prestigious WISE 2020 awards for its impactful and innovative approach to education and has won the UNICEF CFCI2019 Inspire Award in the category "Meaningful Child Participation".

During COVID lockdown, Arkki wanted to do its part by launching and adapting for home use a selection of free creative Arkki@home hands-on online projectsto support curiosity, creativity, and innovation. The projects are available in 8 languages and have impacted children from 43 countries.

Arkki has developed as well English Creative Classroom, a complete pedagogical program on creativity for schools to enhance 21st-century skills such as creative thinking.

Advisory Board sample comments

· This project gives wings to imagination and creativity helping them apply 21st century skills.

· Have visited their space and they have some of the coolest workshops and engagements lined up for the kids to fuel creativity and an innovation mindset.
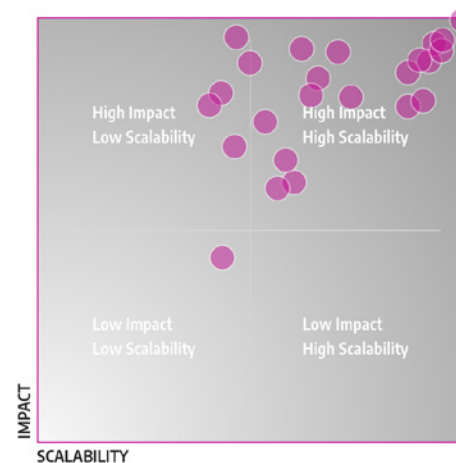
Contact
elena@arkki.net
https://arkki.net/en/

4–18	25 000	7
AGE GROUP	CHILDREN/USERS	COUNTRIES

Facilitating learning, development, and healing through play in the wake of COVID-19

BRAC Remote Play Labs

Bangladesh, Tanzania, and Uganda

Play Labs are play-based learning centers for children ages 3–5 in low-resource settings. With the onset of COVID-19, BRAC is adapting the model for remote learning through radio and telecommunications, ensuring quality, affordable early learning opportunities for children affected by the crisis and helping them build better futures at a critical time in their development.

"BRAC is committed to engaging children and caregivers affected by the COVID-19 pandemic and ensuring they can access playful, high-quality remote learning opportunities."

– DEVON MCLORG, DIRECTOR OF EDUCATION, BRAC USA

BRAC Play Labs are high-quality, low-cost, early childhood learning centers for children ages three to five in low-resource settings. Created in partnership with the LEGO Foundation, the innovative, community-based model centers learning around play in order to support children's language, motor, cognitive, and socio-emotional development. The play-based curriculum incorporates physical play, songs and rhymes, stories, dance, art, and more as tools for learning, and engages caretakers and community members in creating low-cost, culturally relevant play materials to support children's development.

Designed to be adapted and scaled across a number of low-resource contexts, BRAC currently operates a network of Play Labs across Bangladesh, Uganda, and Tanzania, as well as a network of Humanitarian Play Labs serving children affected by the Rohingya refugee crisis in Cox's Bazar, Bangladesh.

### THE CHALLENGES OF EARLY LEARNING DURING THE COVID-19 PANDEMIC

According to Education Above All, nearly 91% of learners around the world were out of school as of April 9, 2020 due to the COVID-19 pandemic. The children that Play Labs serve are disproportionately impacted by the pandemic, not only with respect to their educations, but also in terms of health, food security, and economic impacts. In these low-resource, developing, and humanitarian contexts, children are also disproportionately vulnerable to poverty and other adversities and stressors, which can impede brain development without supportive caregiving interventions.

REMOTE PLAY LABS

With the onset of COVID-19, BRAC is adapting the Play Lab model for remote learning, ensuring delivery of quality early learning opportunities to children affected by the crisis, and helping them build better futures at a crucial stage of their development. Building on the foundation of the Play Lab model, BRAC is safely delivering remote playful learning experiences for children ages three to eight through radio and telecommunications platforms.

Advisory Board sample comments

- Scalability is high due to simple approach through play as well as innovative and mindful use of spaces. Impact comes from incorporating practices that support all round development of the young child and opportunities of employment for the community.

- Concept of the play lab and using available resources to bring Holistic development increases the impact of this innovation. Flexible implementation strategies, use of available resources works for scaling of this model.
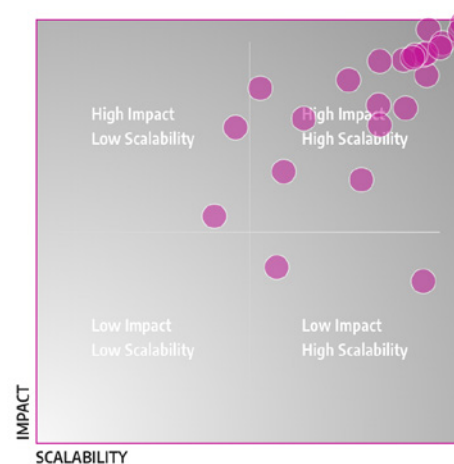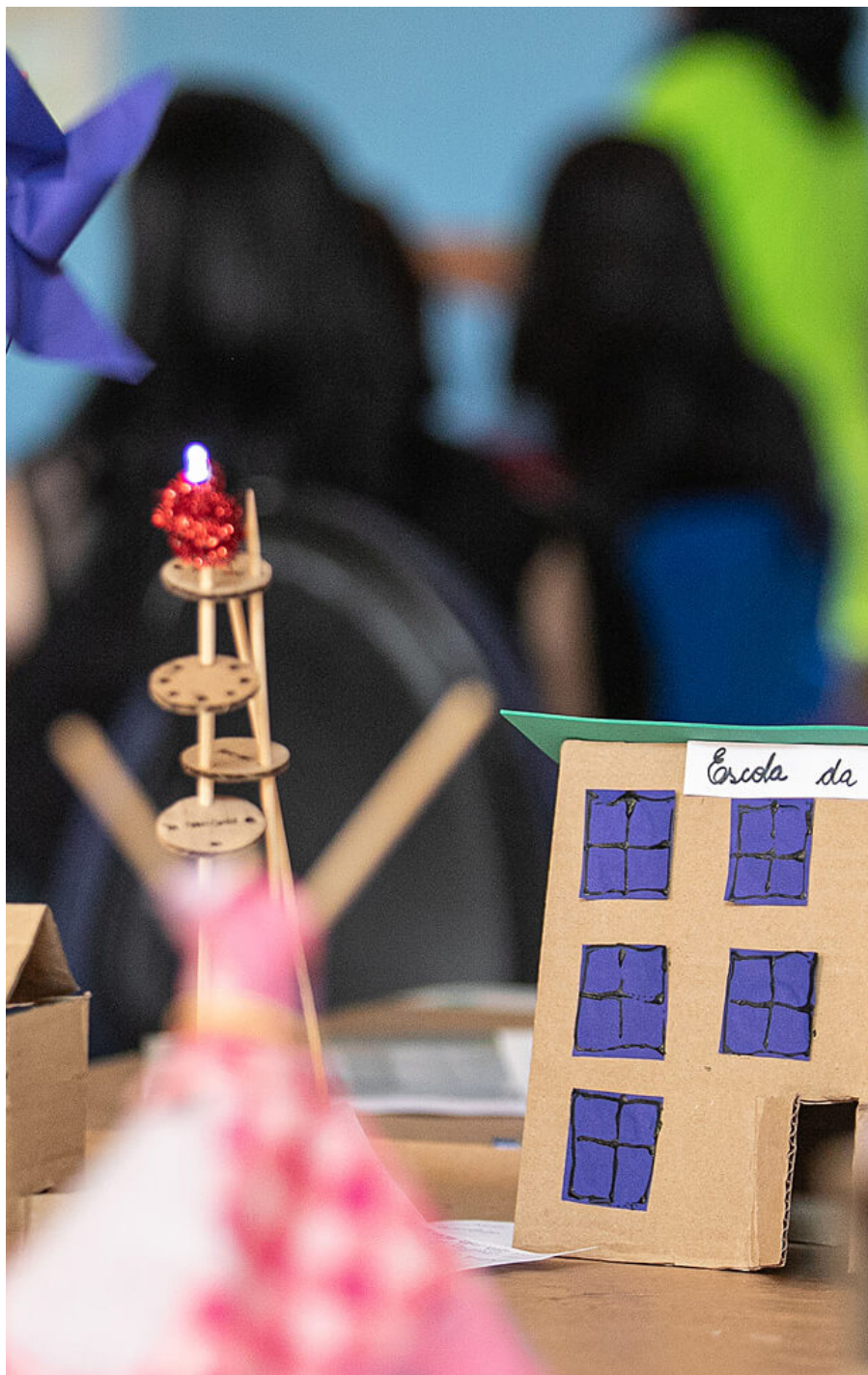

Contact
devon@bracusa.org
http://www.brac.net/

3–5	76 000	3
AGE GROUP	CHILDREN/USERS	COUNTRIES

We promote and enable playful, creative and relevant hands-on education opportunities for children and young people throughout Brazil

Brazilian Creative Learning Network

Brazil

The Brazilian Creative Learning Network is a grassroots movement that implements playful, creative and relevant hands-on educational practices in schools and non-formal learning spaces throughout Brazil. To achieve that, BCLN organizes programs and events that give voice to thousands of educators, researchers, managers, entrepreneurs, artists, families and students from the whole country.

"By fostering creative and relevant hands-on learning experiences, we empower children and young people to engage with the world in a more meaningful and active way."

– LEO BURD, EXECUTIVE DIRECTOR

WHAT WE DO?

The Brazilian Creative Learning Network promotes and supports creative learning through a broad range of programs including:

· Organization of local, regional, and national events like Festivals of Invention and Creativity, Scratch Days and the yearly Brazilian Creative Learning Conference;
· Establishing regional hubs and task forces;
· Pedagogic support through the design and implementation of resources and professional development workshops for educators;
· Organization of year long fellowships to support emerging leaders and their projects
· Creation of new tools and support materials;
· Dissemination and exchange of experiences through meet-ups and online portal.

BCLNs approach empowers educators and school leaders while allowing for local adaptations, essential for succeeding in a country as large as Brazil. It fosters the buy-in of local partners including libraries, universities, social entrepreneurs and not-for-profit organizations. In this way, BCLN creates a vibrant reinforcing community of committed educators who bring innovation and playfulness back into the classroom and other educational environments.

Our approach has proven successful. In just 5 years with six full time staff members BCLN has reached 21,000 educators across the far corners of Brazil, from vulnerable communities in major urban centers to villages in the Amazon. With BCLN leadership, Brazil became the largest host of Scratch Days, a global initiative that fosters creative computing among youth. Through the systemic adoption program, the BCLN reaches out more than 2 million students in public schools.

WHY WE DO IT?

We believe that all Brazilians, since their early childhood, should have the opportunity to develop their creative potential and collaborate to build a more meaningful world.

Learn more from the Brazilian Creative Learning Network MANIFESTO.

Advisory Board sample comments

· Very impactful to organize programs and events that give voice to thousands of educators, researchers, managers, entrepreneurs, artists, families and students from the whole country.

· The simplicity in approach, and impact of the programs – working with children, teacher education and easy to implement practices make it both impactful and scalable.
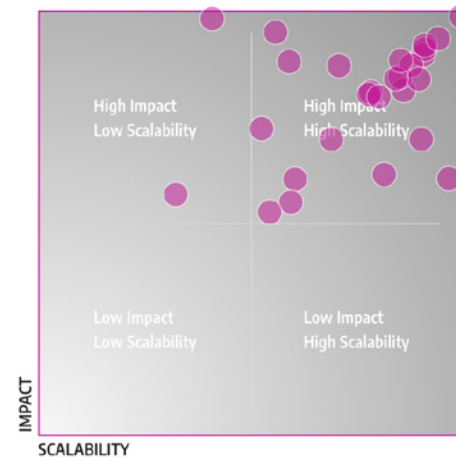
Contact
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All	200 000	1
TARGET GROUP	CHILDREN/USERS	COUNTRY

Design for Change is a global movement
that cultivates the 'I CAN' mindset in every child

Design for Change

India

We are offering the world a magic formula! A simple four step framework to make every child graduate with the I CAN mindset – not by chance – by design! We call this magic formula – FIDS for KIDS! FEEL – empathy – nurture the heart. IMAGINE-ethics – grow the head. DO – excellence – use the hands collaborative action and agency. SHARE – elevation – inspire hope – I can, now you can too!

"We have received more than 20,000
stories of change from 45 countries
and have impacted 2.2 million students."

– KIRAN BIR SETHI, DESIGN FOR CHANGE FOUNDER

WHAT IS DESIGN FOR CHANGE?

Every child has the right to express their views on matters that affect them and to have those views considered. Education systems have an opportunity to develop each child's personality and talents to the full, to encourage the child's respect for human rights, their own and other cultures, and the environment. In short, children should be empowered to be active citizens, able to make a change in the world. Academic competence and character development are the two most valued outcomes, for both educators and the public, yet the prevalence of standardized testing shows that academic competence is increasingly prioritized, leaving a lack of opportunity for a child to develop their unique personality and talents and to have their voice heard.

Since 2009, Design for Change has empowered children to be active change-makers in their communities. The goal is to create a learning environment that balances academic attainment with character development, focusing on passion and compassion, content and character, doing well and doing good. Design for Change is completely decentralized – the ideas for projects will come from the schools and communities themselves. This means any school around the world can adopt the key principles and utilize the method to suit their unique context and particular needs.

The four-step Feel, Imagine, Do, Share process used by Design for Change leads students to understand situations empathetically, imagine creative solutions and work collaboratively to put those solutions into action. The approach builds employability skills, such as empathy, collaboration, leadership, presentation. Through taking control of their own learning, children are able to unlock skills they didn't even know they had. A 28% increase in overall grades and 39% increase of performance in standardized testing have been evidenced. In addition to academic improvements, teachers see their students become empowered, and are able to shift their practice from teacher to facilitator, as children become the driving force in their own education.

Design for Change organizes an annual global conference, Be The Change, to allow young superheroes from across the world to showcase their stories of change and to inspire others with their determination and courage. Design for Change has received much recognition for their work and have won 8 awards to date.

Advisory Board sample comments

- Love the focus on creative confidence! I also think they have taken on designing their own creative process model.
  The age range and scale appears ready to scale into other countries and contexts already.

- Already widely scaled. Development of creativity is inherent to the work.

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8–13	2 000 000	72
AGE GROUP	CHILDREN/USERS	COUNTRIES

Designathon: Teaching for creative changemaking

Amsterdam, Netherlands, Worldwide

Our mission is to unleash the creativity of children, empowering them to design a better world. Together with teachers, parents, schools, clubs and through challenges, children on every continent, learn about, investigate, create prototypes and present their solutions to the Sustainable Development Goals. Step by step with their teachers and communities co-creating a better world.

> "When adults discover their own agency
> and ability to empower the creativity of children,
> then things really start to flourish."

– EMER BEAMER, FOUNDER, ASHOKA FELLOW

TEACHERS EMPOWER CHILDREN TO DESIGN A BETTER WORLD

For 6 years Designathon Works has been advocating for a radical rethink on how society and education systems see children. What if we all saw children as creative changemakers, engaged humans, scientists and inventors? What if we then helped them to develop those abilities? By working with teachers, parents and after school educators, helping them to grow their creative mindset and in turn enable the next generation of changemakers!

WHY WE WANT TO EDUCATE A MILLION CHANGEMAKERS

Our work is driven by the belief that two highly important abilities to have for our complex and rapidly changing world are creative thinking and changemaking ability with digital and technological literacy as a close third. That is why Designathon Works designed training and tools for teachers to foster creativity through a design thinking approach applied to the Sustainable Development Goals and backed up by Maker education.

KEY POINTS IN TEACHER AND AFTER-SCHOOL FACILITATORS PROFESSIONAL DEVELOPMENT

Having a user friendly method that fully engages children is one thing, enabling teachers and educators to adopt new approaches and facilitate children's growth towards unknown outcomes is a whole other journey. Our on and offline training include of course a DIY process where teachers rediscover the joy of inventing their own solutions and making prototypes, but just as important has proved sharing an understanding of creativity, it's development and tools for assessing it's development. Here follows are overview of the foundational aspects of the professional development experiences we work with:

1. Mindset reframe: The child as source of ideas and vision to be taken seriously; Moving from 'I will tell you' to 'I want to hear your ideas'; Moving from 'I answer' to 'I ask questions to help you formulate your own ideas'
2. Explaining creative thinking, creativity and that it can be cultivated, using models and studies, from Teresa Amabile, Guildford, Torrance and Dialogical education, Rubert Wegerif;
3. Encouraging teachers and facilitators to practice their own playful creative development.

Advisory Board sample comments

- Wow! Giving students the chance to create with their teachers and communities co-creating a better world, groundbreaking! So many creative elements infused to create prototypes and present their solutions to the Sustainable Development Goals.

- The project's global reach is already apparent so it clearly has high scalability. I like the way in which creativity is embedded into teaching and projects in such a way that students are encouraged to develop creative skills and a creative approach for later learning.
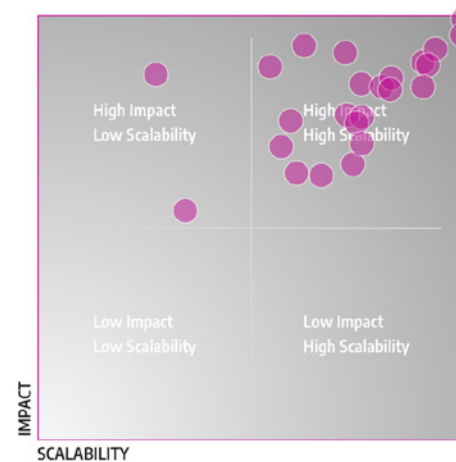
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Teachers	75 000	38
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Educate! prepares youth in Africa
with the skills to succeed in today's economy

Educate!

Uganda, Rwanda, and Kenya

Educate! tackles youth unemployment by partnering with youth, schools, and governments to redefine education so that youth in Africa receive the skills to attain further education, overcome gender inequities, start businesses, get jobs, and drive development in their communities.

"Because of Educate!, I started speaking confidently in public gatherings, I took up leadership positions at school, and I started facing my fears. Most of all, I started believing in myself."

– EMMANUEL, EDUCATE! GRADUATE

WHAT DOES EDUCATE! DO?

Africa will be 40% of the world by 2100—its population is expected to grow from 1.2 to 4 billion and the continent could have more youth at that time than the total population of the United States. As many as 90% of African youth are projected to work in the informal sector. These demographics, along with a scarcity of jobs, have led to dramatic rates of youth unemployment. Education systems in Africa already face challenges meeting young people's needs–current curricula and teaching methods don't consistently prepare students for what's to come following graduation. Despite an eagerness and commitment to learn, even students who finish secondary school often find themselves lacking the skills needed for the few available jobs, leading to unemployment and underemployment.

Educate! believes that by transforming post-primary education we can equip youth with the skills to disrupt this systemic problem of youth unemployment. Educate! works in three ways: (1) directly delivering skills-based education in secondary schools in East Africa, (2) integrating skills-based education into national education systems, and (3) building a new educational solution to impact out-of-school youth.

Educate!'s flagship model in Uganda teaches transferable/soft skills demanded most by both employers and students themselves, such as teamwork, public speaking, networking, critical thinking, self-confidence, and creativity. On top of those foundational soft skills, we layer the hard skills of business including planning, budgeting, savings, and market research.

Two rigorous external evaluations, including a randomized controlled trial (RCT), found that towards the end of secondary school, participants of our flagship model earn nearly DOUBLE the income of their peers and are 44% more likely to launch a business. A follow-up RCT found that four years later, our graduates demonstrate large and durable shifts in skills, coupled with significant improvements in education and gender equity-related outcomes. Girls achieve even greater results.

At the start of 2020, Educate! was reaching a total of 46,000+ youth across over 1,000 schools across East Africa. Since that time we have pivoted to immediately design and implement remote educational solutions for youth during the 2020 coronavirus crisis. In Uganda, this "digitalization" of our proven flagship program model leverages radio for content delivery, with robocalls, interactive voice response (IVR), SMS (texts), and remote mentorship for follow-up assessment, engagement, and guidance for youth on starting appropriate projects and businesses.

Advisory Board sample comments

- The innovation has impacted the lives of thousands of youth who learn entrepreneurship skills by developing their talents in a creative way. It has a potential to scale as it can be implemented in any context.

- Strong evidence base of impact. Developing creativity skills for life alongside addressing a fundamental social issue of youth unemployment.

Contact
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https://www.experienceeducate.org/

15–18	46 000	3
AGE GROUP	CHILDREN/USERS	COUNTRIES

Programa de creación musical

Programa de lectura y escritura

Programa de industrias culturales

Programa de ciencia y tecnología

A proven model for creative development among children and youth through arts, music, literature, science, technology & creative industries

EL INGENIO.
Center for Learning and Creativity Development

San Cristobal de las Casas, Chiapas, Mexico

El Ingenio provided public access to creative development to the community, where more than 20,000 children, youth and adults have developed learning capabilities and creative skills through their original projects in Music, Literature, Arts, Science and Technology and Creative industries.

"What I like the most is that I don't feel
like at school. You feel more like being at home,
chatting about your favourite subject…
that is what keeps me here, and keeps my happy."

– MATIAS FLORES, 2015

WHAT WE DO?

We offer free access to high-quality non-formal education for all ages to develop creative skills, capabilities and attitudes though multiple disciplines related to everyone's interest.

Though short to midterm workshops, learners discover their passions and creative flow, learn to learn and share with others, develop creative and critical thinking, problem-solving, and create a wide array of individual and creative projects in five pedagogical programs: Music, Literature, Science and Technology, Arts, and the Creative Industries.

This happens in a learning community center fully equipped with green buildings, library, maker space, music studio, furniture shop and learning spaces, as well as in multiple community libraries across the state of Chiapas. The creative production is marketed through a for-profit enterprise to support the educational activities.

WHY WE DO IT?

Because we acknowledge the huge potential of children, youth and adults to enjoy learning and develop infinite creative possibilities, not only by creating original solutions to local problems but especially to exercise effective ways of human interaction through learning innovation.

We launched the project in a southern region of Mexico facing multiple educational and socioeconomic challenges, demonstrating that creativity is a powerful tool to overcome these challenges and transform our communities into highly capable clusters of change.

Advisory Board sample comments

- Given how multi-disciplinary this project is, it has the potential to work anywhere. The emphasis on collaboration and community enhances the projects' utility and creativity.

- The programme offers free access to high-quality non-formal education for children, youth and adults; the innovation develops learning capabilities and creative skills of learners.

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All	20 000	1
TARGET GROUP	CHILDREN/USERS	COUNTRY

Empowering global kids to help solve global problems, one idea at a time

Kids Can! Innovation Camp

Manila, Philippines

Kids Can! Innovation Camp provides students with the opportunity to lead their own learning as they tackle real-world problems aligned to UN SDGs through interdisciplinary project-based learning challenges. Through empathy-driven design-thinking and the use of Makerspace and ICT tools, students are empowered to create and design solutions in the form of projects and products.

"The best innovations and solutions to the global problems we are witnessing might come from the hands of curious and passionate kids tinkering in the corners of the school or in their homes. Empower kids to be agents of change to the world."

– FRANCIS JIM TUSCANO, FOUNDER

BECAUSE KIDS CAN!

We often underestimate young people. We leave the big global problems to adults, disregarding the innate curiosity that drives our young people to understand the world around them. Our schools are all about learning what from material and text-books and seldom about immersed learning in and from the world we live in.

In response to this, in June 2017, the Kids Can! Innovation Camp was launched in Xavier School – San Juan, Manila, Philippines in the small makeshift makerspace in the grade school. From an inter-after-school-club synergy, the Innovation Camp has become a global collaboration project supported by a global team of educators, who also took the challenge of translating the camp framework into languages such as Polish, Malaysia, Korean, Viet, and Filipino among others.

BIG IDEAS OF KIDS CAN! INNOVATION CAMP

1. The Kids Can! Innovation Camp seeks to provide grade school-middle school students the opportunity to become critical thinkers, creative problem-solvers, and active agents of change. In order to do this, Kids Can! project incorporates the United Nations Global Goals, also known as the Sustainability Development Goals of 2030, as a guiding tool for the children.
2. The project framework brings design-thinking to the appropriate level of the students who participate.
3. The project is grounded in passion-based learning. Students are given the opportunity to create products that they are passionate about. Students use their passions, talents, and skills (individual and collaborative) as they participate in creating solutions for the problems they are working on.
4. The project aims to help kids come up with different and genuine solutions. The nature of solutions that the students create depends on the nature of the problem they have identified. Hence, possible solutions may include but not limited to: making or inventing, information and advocacy campaigns, call to action through service, and philanthropy.

Visit: https://kidscanproject.weebly.com for more information and resources.

Advisory Board sample comments

- Love the fact that there is a clear focus on SDGs and that there has been clearly scalability with the project already. There is also plenty of support for other teachers around the world who want to have a go with these ideas through the free resources on the website.

- Already works in 16 countries and involves thousands of children. Makes children active learners by giving them the opportunity to lead their own learning.
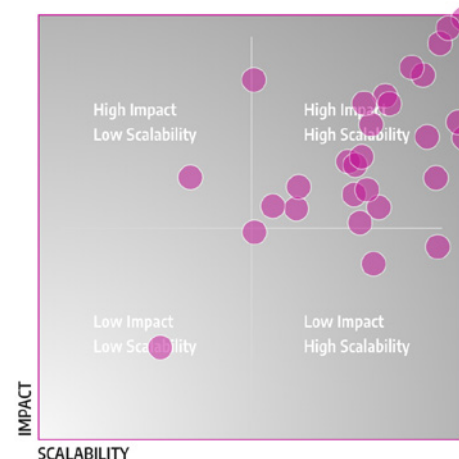
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6–18	4 000	16
AGE GROUP	CHILDREN/USERS	COUNTRIES

An online course and community of educators, designers, and tinkerers exploring creative learning through projects, passion, peers, and play

Learning Creative Learning

Lifelong Kindergarten Group, MIT Media Lab

Learning Creative Learning (LCL) is a free online course and ongoing global community to explore principles and strategies to engage people in creative learning experiences, i.e. working on projects that they are passionate about, in collaboration with peers, within a playful environment that encourages experimentation. http://lcl.media.mit.edu

"The best way to cultivate creativity is to support people working on projects based on their passions, in collaboration with peers and in a playful spirit."

– PROF. MITCHEL RESNICK, DIRECTOR OF THE LIFELONG KINDERGARTEN
GROUP, MIT MEDIA LAB

CULTIVATING CREATIVITY THROUGH PROJECTS, PASSION, PEERS, AND PLAY

In the Lifelong Kindergarten research group guided by Professor Mitchel Resnick at MIT Media Lab, we have identified four guiding principles for cultivating creativity: Projects, Passion, Peers, and Play. That is, we need to provide children with opportunities to work on projects, based on their passions, in collaboration with peers, in a playful spirit. We call them "the 4 P's" of Creative Learning.

Learning Creative Learning (LCL) is a free online course designed to explore and share these ideas broadly, supporting a global community of educators to design creative learning experiences in their contexts. The course itself is a model of creative learning, so that participants experience the creative learning process at the same time as they are learning about it.

The course is organized in six modules, each covering one aspect of the creative learning framework. Each module includes a short video introducing the topic, core reading materials, a hands-on activity, reflection prompts, and extra reading materials for those interested in learning more. People can work through the course materials at their own pace on the website.

Although LCL is organized and presented as a six-week online course, its ultimate goal is to cultivate an ongoing learning community in support of creative learning around the world. While offering online videos, readings, and hands-on activities, we also invite participants to share their reflections, connect, and discuss with each other through an online forum and weekly video calls. Participants are supported by a volunteer network of community facilitators around the world.

LCL supports multiple languages. In addition to translating the content on the website, video subtitles, and readings, we also set up language-specific sections in the online forum and created language-based video conference breakout rooms in live events.

Join us: http://lcl.media.mit.edu

Advisory Board sample comments

- At significant scale both in numbers and reach across countries via the use of digital presence supported by the international reputation of the MIT brand. Appears a low cost approach to supporting creativity in education, clear narrative around the language of creativity and play.

- This fantastic programme is clearly having an impact and is already being scaled up as can be seen from the website and discussion comments. The free access to resources, training and tools is fantastic.
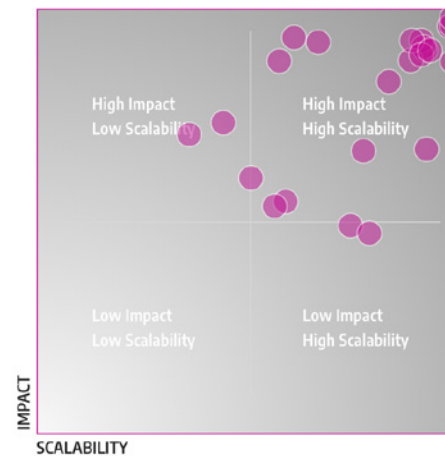
Contact
carolcr@media.mit.edu
https://learn.media.mit.edu/lcl/
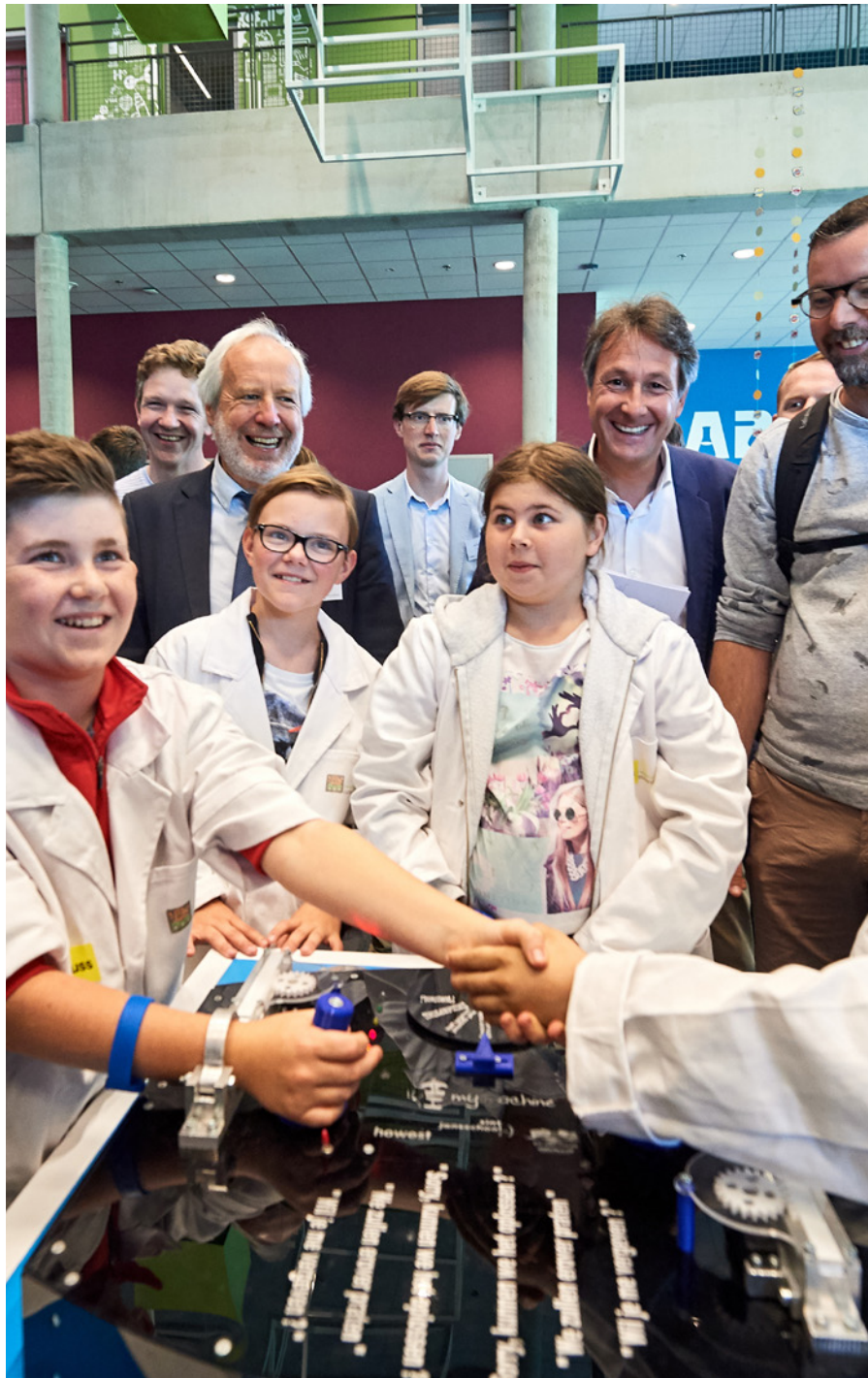
Teachers	30 000	60
TARGET GROUP	CHILDREN/USERS	COUNTRIES

MyMachine is a unique collaboration of all educational levels to create dream machines invented by kids

MyMachine

Belgium

3 educational levels co-creating: (1) Primary school children invent (IDEA) a 'dream machine'; (2) together with university students they design a CONCEPT for it; (3) and together with students from technical/vocational secondary schools they build a WORKING PROTOTYPE.

> "We need inspirational, practical examples of the vitality of creativity, the dynamics of collaboration and the power of possibility. That's exactly what you'll find in this inspiring work of MyMachine."

––––––––––

– SIR KEN ROBINSON, CREATIVITY EXPERT

MYMACHINE. SMALL DREAMS, BIG IDEAS.

MyMachine is a unique intergenerational co-creation process: in one school year:

1. Step 1: Primary School Children invent a "dream machine" (IDEA). Anything goes, as long as they really, really want it.
2. Step 2: University Students (engineers, product designers, digital designers etc.) step in to translate that into a CONCEPT.
3. Step 3: Technical Secondary Students make a WORKING PROTOTYPE.

While collaborating as peers, the students can use the expertise of local corporations & organizations that share a common view on STE(A)M, creativity, entrepreneurship, project-based, maker-centered learning.

MyMachine is an organised free haven in the education system in which students learn that having ideas is important and what it takes to bring an idea to life.

OUR MISSION

The MyMachine Global Foundation is a non-profit organisation eager:

- to make an impact on communities around the world by enabling young people to drive their own futures, to become the self-motivated, problem solving, creative, self-employed or team workers that companies, organisations and the world are looking for;
- to make an impact on all students involved by bringing them 21st-century skills that will serve them for life. When students see that what's happening in the classroom can impact the real-world, they see their education in a whole new light. They learn how they can contribute to society, rather than just be a consumer of it;
- to make an impact on teachers and professors involved and show them how, through project-based learning in an open education context, they can contribute to better the education system.

By bringing our unique, multi-award winning and proven MyMachine 3-step methodology around the globe, to strong local driven partnerships. And of course because it's so much fun to bring your dream machine idea to life!

Advisory Board sample comments

- An amazing solution to give children early exposure to use and design valuable machines.

- Incredibly creative project. A very good practice for collaboration of primary, secondary school and college students.
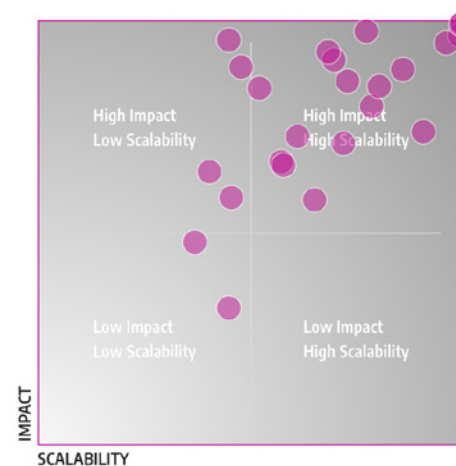
Contact
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5–24	11000	12
AGE GROUP	CHILDREN/USERS	COUNTRIES

Playground Ideas

Melbourne, Australia

Building playgrounds to build brains. These unique, child designed playgrounds are built using local materials to provide abundant opportunities for daily play. Recent addition – Nüdel Kart; a deconstructable, mobile play kart that can be reconfigured in endless ways to encourage self-directed learning. It contains research-backed specially selected materials to stimulate children's development.

"Anyone anywhere can do it – if you have motivation
and commitment you can build a playground
for children anywhere in the world."

– MARCUS VEERMAN, FOUNDER & CEO

WHAT IS PLAYGROUND IDEAS?

More than just a nice way for children to pass the time, play has an incredibly important role in a child's development. Self-directed play has many positive effects on the body and brain. Gross motor skills are developed and improved along with social skills, risk awareness, self control and creative thinking for problem solving. There is evidence to suggest that if children miss out on this early stimulation there are long term negative consequences.

However, in many countries possibilities for play are limited. This may be due to the nature of the education system or the lack of opportunity and space for play. The UN predicts that 250 million children will turn 5 years old without reaching full development potential. Many of these children are from lower to middle income families in developing countries.

Playground Ideas is a not for profit organisation that both advocates for the importance of play and supports communities in developing countries to build their own low cost, safe playgrounds. Over the past 11 years they have supported communities in 85, predominantly developing, countries to build thousands of playgrounds.

Playground Ideas provides downloadable ideas, plans and manuals free of charge to empower communities to build their own playgrounds. There are over 150 design ideas all of which can be adapted for different age groups. A 3D design tool enables the design of a completely bespoke playground to suit local needs.

The playgrounds are made with materials that are readily and cheaply available rather than specially designed playground equipment. For example, tyres can be used in many ways to build a variety of activities such as swings and seesaws or to build a sandpit for sensory play. Included in the guides are also ideas for sparking imaginative role play by building a shop front, for example.

The guides come with step by step instructions on how to build each aspect of a playground along with safety information for each piece of equipment. There are also manuals to support the design of inclusive playground spaces so all children can benefit from the playground. Playground Ideas is committed to play-based education and also provides information for educators on how to develop this pedagogy.

While the playgrounds are low cost, a certain level of outlay is inevitable. In order to support local communities to raise the funds required to build their own playgrounds, Playground Ideas offers a fee-free crowdfunding service.

Advisory Board sample comments

- Very cool. Their overall approach is scalable and seems accessible and supported by training and support for acquiring funding.

- Learning by doing and playing together with other children has many positive effects on the body and brain. Gross motor skills are developed and improved along with social skills, risk awareness, self control and creative thinking for problem solving.
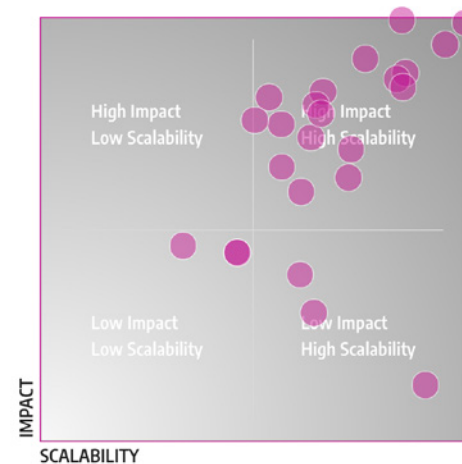
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All	2 000 000	125
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Cultivating healthy creative identities in students by fostering positive relationships

Out Of Syllabus Project

India

The Out of Syllabus Project is an initiative of Project FUEL and FUEL Foundation to document, design and celebrate the wisdom of our teachers through stories of their lives and life lessons. This is enabled through a reflective process that recognises and places value on each unique life experience.

> "My experience has been phenomenal. I am amazed by the students. The confidence with which they are asking questions to us (teachers) is commendable."

– USHA KANDARI, PHYSICS LECTURER,
GOVERNMENT GIRLS INTER COLLEGE RAJPUR ROAD

WHAT WE DO!

With the <u>Out of Syllabus project</u>, we aspire to reimagine role-models for students within academic institutions and encourage them to seek inspiration from the ones, they've known forever. The project aims at transforming school aisles into 'Wisdom Corridors' i.e., a gallery exhibiting life-lessons of teachers that students can access when feeling lost or alone.

It also focuses on enhancing immersive conversations between teachers and students by creating a safe space for them to connect. Alongside, creating a unique database of learning that can act as a repository on human interest stories and as an advice bank for budding change makers.

The emphasis on personal relationships, positive mindset and building understanding are foundational to the creative process. By allowing students the space to connect and understand their teachers and peers, they are better able to experiment and freely move through the creative process.

WISDOM CLUB

We begin by creating a 'Wisdom Club' in school. A curated set of students are coached in 21st century skills of communication, creativity, collaboration, critical thinking, film making and journalism.

WISDOM CORRIDOR

The student members of the 'Wisdom Club' work alongside award-winning designers and illustrators to create striking and informative poster prints that carry the life lessons of the teachers along with their pictures. These exhibits transform the school corridors/walls into a "Wisdom Gallery" that tells its spectators the life-stories of those teachers.

Advisory Board sample comments

- I think this is great because we often forget how important learning "soft" life skills are in the 21st century world.
  There is something beautiful and humane in this Psycho-social and emotional contribution to society.

- Scalability – this innovation can be reproduced anywhere on a seemingly minute budget. Impact – engaging, authentic, purposeful life-lessons are critical to holistic development.

Contact
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https://outofsyllabusproject.com/

5–18	8 000	2
AGE GROUP	CHILDREN/USERS	COUNTRIES
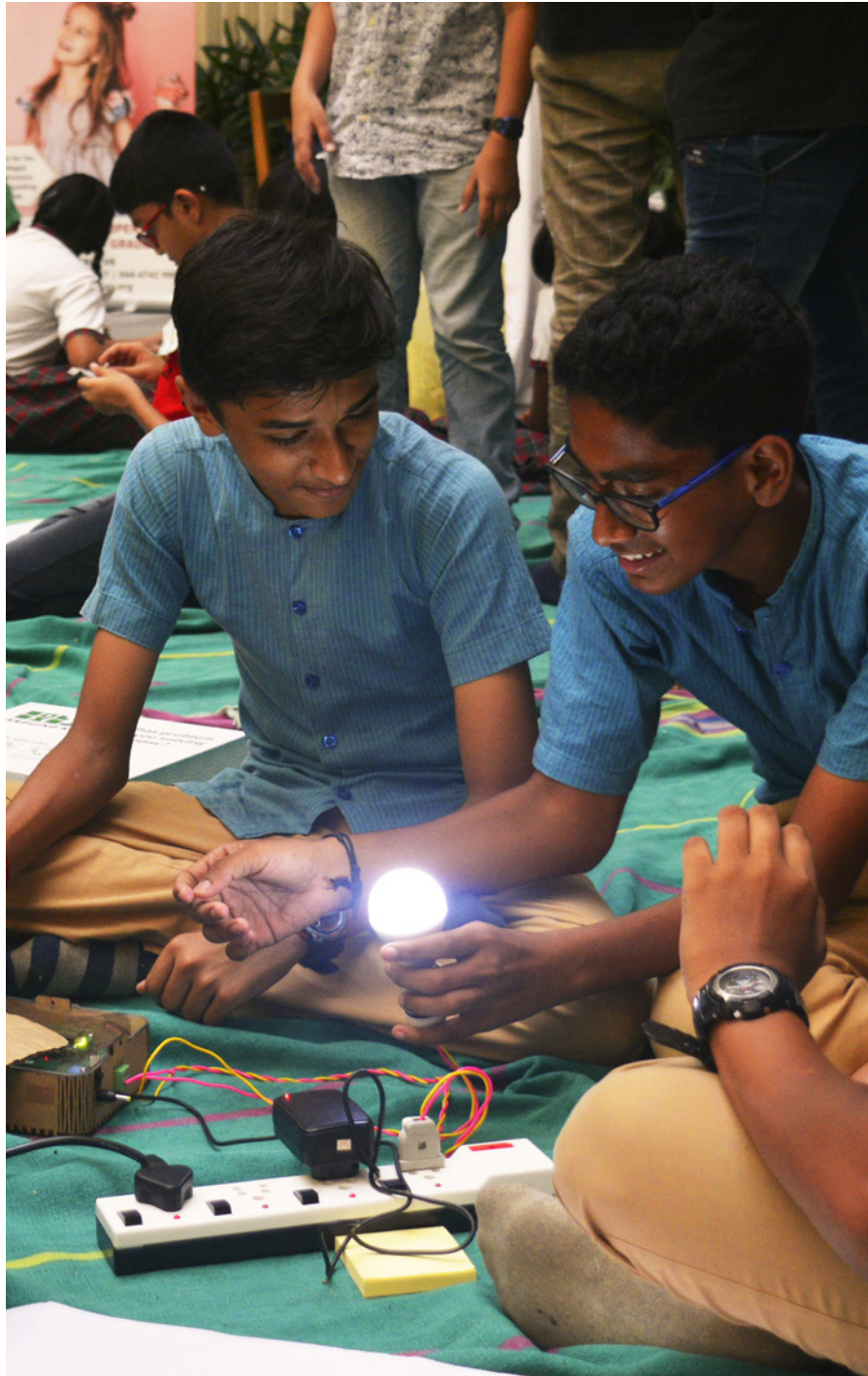
Activating young citizens to solve local civic and environmental problems

Reap Benefit

India

Reap Benefit is building a tribe of problem-solving citizens who drive change in their local communities by solving everyday issues using local data, local solutions and local campaigns.

"Nearly 75% of the youth we engage with have taken at least one civic action in the last 6 months. They now see the importance of their role as citizens to solve problems in their communities."

– KULDEEP DANTEWADIA, CEO AND CO-FOUNDER

WHAT IS REAP BENEFIT?

Reap Benefit has activated 45000+ young people who have taken 58,000 civic actions in their communities that include reporting issues to local governance, initiating community campaigns and have built 500+ civic innovations that solve local problems in waste, water, sanitation and pollution.

Reap Benefit strives to be a platform that inspires and nurtures young people to flex their civic muscle by taking civic actions. The vision of the platform is to measurably increase the civic muscle of 10 million youth and create a network of 10,000 young civic leaders across India.

Reap Benefit works with youth through grassroots mentorship in schools and civic technology platforms that follow a simple 4-step experiential process:

   a   Discover – Identifying local civic and environmental problems
   b   Investigate – Collect quantitative and qualitative data
        to understand the problem better
   c   Solve – Ideate, innovate and prototype solutions and campaigns
   d   Share – Communicate data and solutions with local stakeholders
        and governance

The experiential learning is amplified by fun hands-on activities, Do-It-Yourself Solution kits, civic games and Reap Benefit's civic technology platforms. Reap Benefit's focus is more on the process than the product, thus enabling young problem solvers to think data, tinker with technology, co-create solutions and collaborate with local governance.

Reap Benefit's work has been acknowledged by Barack Obama and has received national recognition and awards by the Ministry of Drinking Water and Sanitation, MIT GSW, Forbes, Time of India, CNN IBN and Unilever.

Advisory Board sample comments

· Clearly from the evidence, the impact on those participating is huge and the scalability is continuing so it deserves to be recognised for helping to challenge, engage and excite learners as well as those within their community. This is making a difference.

· I love the altruism and community spirit at the heart of this project. It certainly has the potential to be very transformative in a number of ways.
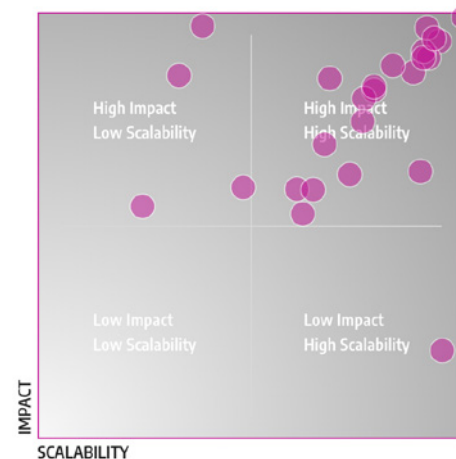
Contact
kuldeep@reapbenefit.org
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10–18	45 000	1
AGE GROUP	CHILDREN/USERS	COUNTRY

RLDAA is a festival of creative, hands-on experiences for youth and families to learn together about how education is being remade

Remake Learning Days Across America

Pittsburgh, PA

RLDAA is a multi-day festival designed to help parents, families, and caregivers engage in innovative education that youth experience when they make, code, play, design, and tinker. With dozens, even hundreds, of events held in local schools, libraries, museums, and other learning sites, families can easily participate in creative educational moments. Fifteen cities now host their own #RemakeDays.

"Remake Learning Days Across America has a bold premise: give more students and their families access to engaging, relevant and equitable learning experiences."

– GREGG BEHR, THE GRABLE FOUNDATION

WHAT WE DO?

Remake Learning Days Across America (RLDAA) is a learning festival that celebrates the many learning opportunities in any community. This celebration highlights innovative experiences and opportunities for youth to develop their sense of creativity, perseverance, and curiosity. A variety of organizations — such as schools, museums, libraries, after school organizations, early child care centers, universities, media centers, tech startups and more — open their doors and host events for families to learn together. These events are designed to be hands-on, relevant, and engaging educational experiences for youth and their families. The majority of events are free and open to kids of all ages.

We proactively design each festival to address educational disparities for marginalized populations (learners in poverty; learners of color; learners in rural areas; girls in STEM; and learners with exceptionalities). We concentrate event planning, outreach, and marketing in neighborhoods and communities where such marginalized populations reside.

WHY WE DO IT?

It became apparent that to truly change a regional culture around learning, parents and caregivers not only had to be brought into the conversation about educational innovations but also had to experience creative and modern learning innovations. Parents had to experience new designs for learning, not just hear about them. Only then, we thought, would parents, families, and caregivers appreciate and then demand this type of learning for their children.

And so we launched Remake Learning Days. We thought about the festival as a regional open house of creative learning. Each May since 2016, local schools and organizations have hosted more than 250 events designed to spotlight and celebrate 21st-century learning and actively invite parents, caregivers, and community members to experience creative moments that are igniting learning in their kids. Nearly 30,000 adults and youth attend these events annually. And annually, more than 1000 parents submit survey responses, helping us to understand what's happening; encouraging, from year to year we've noted statistically significant increases in the numbers of parents reporting, for example, that they are "extremely familiar" with the concepts of STEAM learning and other creative learning frameworks.

Advisory Board sample comments

- RLDAA enables various people around children to get interested in creative learning for children. Yes, creative learning needs not only teachers or educators but also everyone around children.

- Given the pandemic situation, the role of parents/caregivers is all the more important. This innovation caters to how parents become part of the dialogue towards education. Highly scalable and can work across contexts.

Contact
days@remakelearning.org
https://remakelearningdays.org/

Parents	150 000	2
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Bringing together students from over 400 000 education centers in 190 countries to listen to each other's stories

Scholas Occurrentes

Vatican City

Scholas Occurrentes is an international organization present in five continents through its extensive educational networks. Its mission is to create the Culture of Encounter; by bringing young people together from diverse backgrounds in an education experience that generates understanding across the globe.

''Our utopia, that of all of us who are part of Scholas, is to create a Culture of the Encounter by means of this education.''

– POPE FRANCIS

ABOUT US

Since the beginning, Pope Francis imagined Scholas as the possibility to offer a concrete answer to the calling of this time, entrusting it the task of teaching based on

the openness to others, on listening and gathering the pieces of a divided world and devoid of meaning, to create a new culture, the Culture of Encounter.

Today, 21 years after the first experience in Buenos Aires, Argentina, dreamed by the then archbishop of the city, Jorge Bergoglio- now Pope Francis-, and six years after its first steps in this world, Scholas is set up as an International Organization of Pontifical Right with offices in Argentina, Vatican City, Colombia, Spain, Haiti, Italy, Mexico, Mozambique, Panama, Paraguay, Portugal, Romania, Japan and Chile, and is present in 190 countries through its network, integrating over four hundred thousand education centers and reaching to over a million children and youngsters across the world.

PEDAGOGIC THINKING

"Scholas senses that that is what education is about.
An education that opens up a door to the unknown,
which takes us to those places where waters haven't split
yet, so that from there we can dream about new paths."

– POPE FRANCIS

Scholas is a call to listen to life, so that from there we can create a culture to celebrate it. It's education that teaches to find oneself and find one another, to grab the sense created in that encounter.

We were taught we should "have" things, acquire knowledge, tools, degrees to "do", work, produce, prove so that- eventually only a few- we can be someone in life. This equation, besides postponing and conditioning oneself, subjects us to a mold, or category with which either you fit or you are discarded.

Scholas breaks with this logic by educating based on listening the "Being", that unique and beautiful characteristic that composes what we are, so that "doing" means creation, the expression of oneself, and finally celebrate "having" which since it matches who I am, needs no more or no less.

When Games, Arts and Thinking are capable of listening and expressing this reality, they become Scholas education language, and all its experiences are an attempt to embody this intuition.

Advisory Board sample comments

· Providing the youth with programs that matter to them in simple forms creates the scope for high engagement and deep impact. The variety and tools are easy to replicate across boundaries and hence scalable.

· What a wonderful programme that has supported so many across the globe. The impact has been monumental and the scalability is unquestionable.
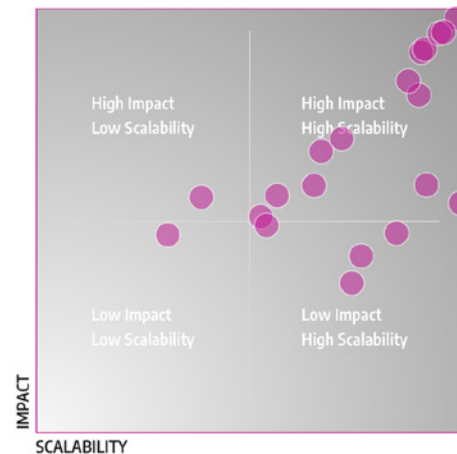
Contact
redessociales@scholasoccurrentes.org
https://www.scholasoccurrentes.org/

All	1 000 000	15
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Scratch engages millions of children
around the world in coding and sharing projects
to express their ideas and develop their creativity

Scratch

United States

Scratch is a free creative coding platform and online community that allows children of all ages to code, share, and remix their own stories, games, and animations. Scratch is translated into 50+ languages and available both online and offline. There are hundreds of thousands of educators around the world who are using Scratch in and out of classrooms and across the curriculum.

"As children create and share Scratch projects, they're learning to think creatively, reason systematically, and work collaboratively – essential skills for everyone in today's society."

– MITCH RESNICK, LEGO PAPERT PROFESSOR
OF LEARNING RESEARCH AT THE MIT MEDIA LAB

WHAT WE DO?

Scratch helps young people learn to think creatively, reason systematically, and work collaboratively — essential skills for life in the 21st century.

Scratch was first launched as a desktop application in 2007 by the Lifelong Kindergarten Group at the MIT Media Lab. Inspired by the early programming language Logo, Scratch was developed as an open source, block-based platform to support a wide range of creative expression. Scratch 3.0, launched in 2019, is designed to work in any current browser and on a wide variety of devices — including touch devices like tablets. Kids can create their own interactive stories, games, and animations on their computer and share them with the online community by uploading them to the Scratch website. No internet? No problem. The Scratch app allows you to create Scratch projects without an internet connection. With more than 43 million registered users, Scratch is now the world's largest creative coding community for children.
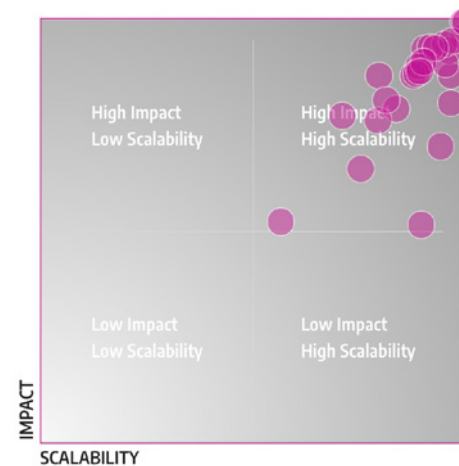
The Scratch online community lies at the heart of Scratch as a collaborative tool. Scratch users can remix any project on the Scratch website to modify and add their own ideas. We believe that remixing other people's projects is a great way to learn to program and to create interesting projects. Through remixing, creative ideas spread through the Scratch community, and everyone benefits. In the spirit of collaboration, Scratch also supports user comments and collections of themed projects in Scratch studios.

Scratch is used in hundreds of thousands of schools around the world, in many different subject areas (including language arts, science, history, math, and computer science). You can learn more about strategies and resources for using Scratch in schools and other learning environments (such as museums, libraries, and community centers) on our Educators Page and Scratch in Practice (SiP) Page.

Scratch and partner organizations continue to innovate with ways to integrate Scratch with other technologies and experiences through their extensions library. For example, there are built-in extension blocks that enable you to program physical devices (such as micro:bit, MaKey MaKey, and LEGO robotics kits). There is also an experimental extensions site that supports integration with more advanced hardware and technologies such as the Internet of things (IoT) and augmented reality (A/R). The team will keep adding new extensions over time, so what you can do with Scratch will continue to grow over time!

Advisory Board sample comments

- Scratch is an international leader, it is well known and is operating at an impressive scale.

- This platform gives wings to student's imagination, problem solving and creative thinking.

High Impact Low Scalability · High Impact High Scalability · Low Impact Low Scalability · Low Impact High Scalability

IMPACT

SCALABILITY

Contact
rshah@scratch.mit.edu, jacy@scratch.mit.edu
https://scratch.mit.edu/

8–16	43 000 000	163
AGE GROUP	CHILDREN/USERS	COUNTRIES

Want to blend dance and drawing
in creative group workshops?

Segni Mossi

Rome, Italy

A rule-bending method of creative education that brings together movement and art in workshops for learners and teachers alike.

"We are not interested in finished products.
We are mainly interested in living the experience."

— ALESSANDRO LUMARE, SEGNI MOSSI CO-FOUNDER

WHAT IS SEGNI MOSSI?

Creative arts are an important outlet for people of all ages, but many may fear that they are not good enough to dance or make art.

Segni Mossi aims to find interesting ways to bring the arts into education. They work to engage all kinds of learners, encourage freedom of expression without anxiety and teach valuable skills such as creativity and curiosity.

Created in Italy by Alessandro (an illustrator) and Simona (a dancer), Segni Mossi offers workshops and training courses that blend movement with graphic art. The key focus is on workshops in public primary schools, in conjunction with Mus-e, an organization that works to promote social inclusion through arts in Rome. Segni Mossi supports several schools through weekly movement and art workshops.

The intention of the workshops is to explore the common ground between dance and drawing. Learners of all ages are able to experience how these two languages can blend together, using a sensory approach in a non-competitive setting. The workshops focus on creating an environment that stimulates collaboration and innovation, supporting participants to overcome fears that block creativity.

Segni Mossi also runs training courses for teachers and adults all over the world, to pass on their approach to artistic education. These courses explore practical proposals for educators to implement in schools. When educators take these ideas back to learners, the focus is on working with young people to research and create art rather than teaching them.

Feedback from teachers is that this style of creative education has allowed them to see their students in a different light, especially those who may have more difficulties in the classroom. Many students seem to really enjoy learning in this way and are able to express themselves much more freely through dance and drawing.

OUR CURRENT IMPACT:

- 500 children in our annual public primary school workshops in Rome
- 600 families in our one-off workshops all over the world
- 2000 children and adults in our interactive performances in public spaces all over the world
- 6000 adults in our 2 days training courses all over the world

Advisory Board sample comments

- I love that Segni Rossi runs training courses for teachers and adults all over the world and provides weekly movement and art workshops locally. That is incredibly scalable which increases its ability to be impactful worldwide.

- Huge fan of focusing on the creative process first, leaving room for the product to occur as a by product. This programme is unique, and truly creative.
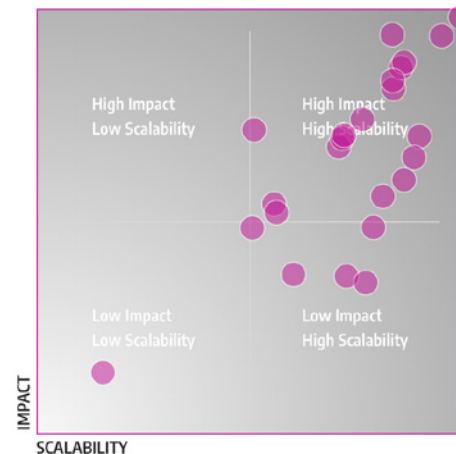
Contact
info@segnimossi.net
https://www.segnimossi.net/en

All	9100	25
TARGET GROUP	CHILDREN/USERS	COUNTRIES

We leverage the power of visual and performing arts to build Creative Confidence (SEL, 21st century skills) in disadvantaged children

Slam Out Loud

New Delhi, India

Slam Out Loud is a for-mission, non-profit that places professional artists in classrooms for a 5-year program and through lived experience create scalable, contextualised learning products. SOL enables children from the most vulnerable communities to find their voice through creative expression, build socio-emotional learning and 21st-century skills to dream bigger and create their future.

> "Our dreams for children in low-income communities are often restricted to the security of employment, or at best, academic success, but finding one's voice shouldn't be only for the privileged."

– JIGYASA LABROO, CO-FOUNDER

CHANGING LIVES THROUGH THE ARTS

> "I imagine a future where there will be no boundaries,
> no borders but one land, one religion, humanity,
> and love. It'll be a world where everyone understands
> the real meaning of arts and education."

– SUPRIYA, A SLAM OUT LOUD STUDENT

Children from disadvantaged backgrounds face a lack of engaging opportunities to build creative confidence and are thereby dis-empowered to harness their voices to break the cycle of negative outcomes.

Art education has globally proved to build in children skills that help them be more employable and have better life outcomes, yet the average Art teacher: student ratio in India is 1:1400 (according to an RTI filed by Slam Out Loud), giving children less than 20 hours of art education every year.

Slam Out Loud uses the transformative power of performance and visual arts to help build creative confidence (SEL, 21st-century skills) skills like communication, critical thinking and empathy in children from disadvantaged communities. We work with professional artists and e-learning resources to help children build the skills needed for them to dream bigger and create their future.

Slam Out Loud has worked with children across 4 states in India, with over 50,000 original artworks created, and performances done for a cumulative audience of 75,000. We have worked with children and youth from low-income communities and conflict areas, Departments of Education of Kashmir and Maharashtra, parents, jail inmates, out of school children, and college-going students. 15 of our children have been TedX speakers, and the children have facilitated nearly 50 art workshops for adults and other children.

Advisory Board sample comments

- Young organisation that has scaled effectively and rapidly in India. Offers an interesting range of long-term, quality interventions which focus on using arts practices to cultivate the creativity skills of children – young people from some of the poorest communities.

- Ease of replication across demographics and economic boundaries makes it scalable. The impact of Performing Arts reaches across all subjects of learning, finding one's voice is the key to growth of communities.

Contact
jigyasa@slamoutloud.com
https://www.slamoutloud.com/

6–17	79 988	16
AGE GROUP	CHILDREN/USERS	COUNTRIES

Teachers are the innovators
education has been waiting for

The Teachers Guild

San Francisco, USA

To catalyze creative leadership, The Teachers Guild builds off the methods and mindsets from the Design Thinking for Educators Toolkit. It's a learner-centered approach to problem-solving that builds teachers' skills and confidence to design for the evolving needs of their students and schools.

"The Guild challenges your thinking. What topic
do you want to study? What do you want
to focus on? It's about problem solving in a new way.
You know you're going to be on a journey."

– CRIS VAUGHAN, PRINCIPAL, BAYCHESTER ACADEMY, NEW YORK

WHAT IS THE TEACHERS GUILD?

Our approach is based on Design Thinking methods and mindsets.

The methods help to activate your expertise in pedagogy and content by generating new ideas. It starts with defining a challenge you want to solve for and with your students.

The mindsets help you develop your belief and confidence in tackling challenges and knowing what works for students and why.

The Guild's approach is also based on adult learning theory and student learning science so teachers can experience first-hand how students learn best.

Inquiry Driven – Because teachers learn by solving problems, we develop their ability to start with questions, not answers, resulting in classrooms where students strengthen understanding through problem solving.

Collective Efficacy – Because teachers value problem solving in groups, we develop their ability to use evidence and collaboration to understand what works and why, resulting in classrooms where students work together and grow socially and emotionally.

Learner Centered – Because teachers prioritize their classrooms' needs, we develop their ability to use empathy to identify students' needs, resulting in instruction that links to students' lives.

Metacognition – Because teachers are self-directed learners, we develop their ability to reflect and never stop learning, resulting in opportunities for students to monitor and adjust their approach to learning.

Actively Engaged – Because teachers have readiness to learn, we develop their ability to embrace, act on, and share ideas, resulting in classrooms where students engage in active learning experiences.

Self Efficacy – Because teachers are intrinsically motivated, we develop their belief that they can create change, resulting in classrooms where students feel increased agency.

Advisory Board sample comments

- I love seeing this programme out there that focuses on the educator. It seems sustainable as well as inspirational.

- It offers a simple and doable solution for quality teaching via teacher growth. The tool is mindset and collaboration, hence it can be easily replicated and contextualized.
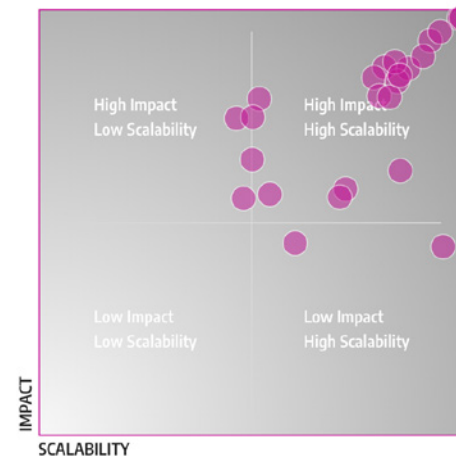
Contact
aenglish@ideo.com
https://www.teachersguild.org/

Teachers	100 000	1
TARGET GROUP	CHILDREN/USERS	COUNTRY

The Walking Curriculum is an innovative interdisciplinary resource for educators K-12 who want to take student learning outside school walls

The Walking Curriculum

Canada

Walking Curriculum activities can be used in any context to develop students' Sense of Place and to enrich their understanding of curricular topics. The 60 easy-to-use interdisciplinary activities engage students' emotions and imaginations with their local natural and cultural communities, broaden their awareness of the particularities of Place, and evoke their sense of wonder in learning.

"Everyone can be better; this resource will make everyone a better teacher."

– MARK G; VICE-PRINCIPAL

Teachers in urban, sub-urban, and even in rural areas, often have little imagination-focused curricular resources that can develop students' sense of ecological understanding and contribute to their understanding of the mandated curriculum. This resource can help to fill that gap. Through walking we can enrich our students' sense-making abilities, we can enhance their very being and, as we go, we can seed with meaning the contexts in which they spend so many hours learning.

In the **60 walks** described in this resource you will see a variety of themes, perspectives, and motivations. For example, students may be asked to find different things (such as shapes, spaces or lines, evidence of growth or change, "the best" hiding places), to change perspectives (imagine being a beetle, a detective, or a visitor from outer space), to encounter the world differently (emphasizing one sense over another or moving through space differently), to seek evidence of human-nature relationships, to identify patterns, or to locate natural or human systems in action. In all cases, the intent is to broaden students' awareness of the particularities of Place.

The activities are designed to: engage the body, emotions, and imagination in ways that can increase students' familiarity with the local natural context in which they go to school; increase students' attention to detail and their attunement with Place; connect Place-based learning activities with cross-curricular goals; and serve as examples for your own, Place-inspired teaching ideas. Introductory chapters provide a rationale for the Walking Curriculum and describe the underlying educational philosophy it reflects. Detail is provided so you can prepare to use the resource as well as extend and enrich your students' learning.

The walks themselves are divided into three sets: The 30 walks are paired with guiding questions and an imaginative activity or prompt to engage students' emotions. These are the easiest walks for you to employ; they require little direct teaching or guidance ahead of time. They are readily adaptable for students of all ages. The second set contains 15 walks requiring some direct instruction and guidance; they will work better if they are properly introduced and contextualized. The final set of 15 walks is specifically designed for High School students and reflects interdisciplinary curricular outcomes. Find out more on the Walking Curriculum webpage (on imaginED).

Advisory Board sample comments

- Incredibly easy to introduce in your classroom/school/district... I'm already thinking how I can use this at school!

- Love this innovative interdisciplinary resource for educators K-12 who want to take student learning outside school walls! The activities are designed to: engage the body, emotions, and imagination in ways and connect to learning milestones... so impactful!
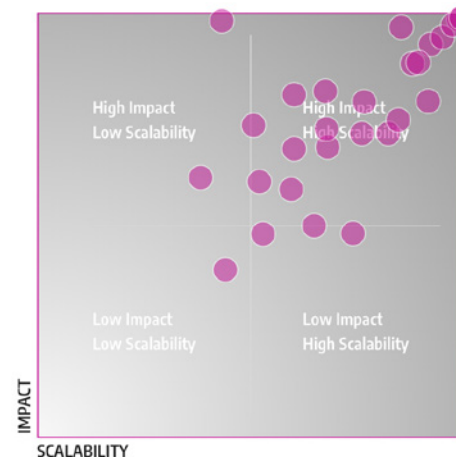
Contact
gillian_judson@sfu.ca
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All	100 000	11
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Special Mentions of Exceptional Whole School Models

Considering the school environment as an ecosystem of many education practices is vitally important to cultivate creativity. In addition to the selected innovations mentioned, we discovered notable whole school models worth celebrating. These schools were evaluated as excellent examples of ecosystems that foster creativity effectively through a harmonious combination of approaches in its model.

The aeioTU Educational Experience is a pedagogical curriculum developed to promote children to be creative and competent citizens of society

aeioTU Educational Experience

Colombia

The aeioTU Educational Experience is an innovative pedagogical curriculum aiming to develop the full potential of children under five, so that they can develop the skills necessary to change the course of their lives. Inspired by the Reggio Emilia Approach, it's center is the child and the learning process through art and play. It has measurable results and promotes community transformation.

All	228 667	4
TARGET GROUP	CHILDREN/USERS	COUNTRIES

Contact / aeioTU Educational Experience
nquintero@aeiotu.org
https://www.aeiotu.com/?lang=en

Contact / Agora
r.houben@niekee.nl
https://niekee.nl/agora-vmbo-havo-vwo

Contact / Liger Leadership Academy
j.holte@ligerlearning.org
http://www.ligeracademy.org/

The school with no classes, no classrooms and no curriculum

How can we create the change makers and leaders of the future?

Agora

Netherlands

We start with you. What do you want to learn? What are your talents, interests, and ambitions? You can use everything in the world that's worthwhile to investigate, make or develop as your personal starting point for learning. Your personal coach will support and supervise your learning process. At Agora we traded courses, time-tables, classes, and tests for challenges, collaboration and coaching by teachers.

Liger Leadership Academy

Phnom Penh, Cambodia

Liger learners are taught to become 'Change Agents', to take initiative through an inquiry process by seeking real-world problems and creating solutions through a combination of project-based, experiential and opportunity based learning.

12–18	799	2
AGE GROUP	CHILDREN/USERS	COUNTRIES

All	110	1
TARGET GROUP	CHILDREN/USERS	COUNTRY

Concluding Remarks and Recommen- dations

> "There's a wealth of talent that lies in all of us. All of us, including those who work in schools, must nurture creativity systematically and not kill it unwittingly."

– SIR KEN ROBINSON

This research project aimed to discover and celebrate leading innovations doing exceptional work on fostering creativity at a school level. The results show there is no shortage of a wide range of practices and solutions currently being implemented in many parts of the world that are considered by stakeholders in education globally as both impactful and scalable. It is important to state here that we do not necessarily think that all of the selected innovations should be adopted and adapted for every context, but we think they all can absolutely increase their current impact and reach, as well as at the very least, be an example of success others can be inspired from.

We are humbled by the amazing work of these innovators who are putting in a ton of passion and drive to make learning both joyful and life changing; from Slam Out Loud impacting almost 80000 children in 16 countries to Brazilian Creative Network impacting around 200000 students in Brazil. We also want to celebrate the whole school models of Agora, Liger Leadership Academy, and aeioTU Educational Experience, which are exemplary at integrating many modern practices and solutions into a larger harmonious ecosystem of learning to effectively foster creativity.

10 Guiding Principles
to Foster Creativity

To round off this report, we discovered 10 major principles to follow from recurring themes that emerged from the reviewed literature (Chapter 1), Collection of Voices (Chapter 2), findings from the innovations gathered (Chapter 3), and selected innovations for this Spotlight project (Chapter 4). These principles are paired with the selected innovations that exemplify each principle, which we hope will guide and inspire educators, leaders and decision makers to formulate strategies that enable innovative approaches for fostering creativity at a school level. If you are interested in finding out more or a facilitation process for implementing these innovations in your context, please reach out to anyone at HundrED.org. We are more than happy to facilitate a connection to interested parties.

1

CULTURAL INCLUSIVENESS WHEN DEFINING CREATIVITY.

We all need to ask who gets to decide what creativity is and why. If an education system adopts a definition that does not consider a diversity of cultural perspectives, there is a danger that they may miss important differences about what it means to be creative: for example, the importance of collaboration and co-creation can be neglected. Moreover, some definitions could be biased towards over-valuing particular dimensions over others (divergent thinking and products/outcomes for example).

Selected innovations that exemplify cultural inclusiveness of fostering creativity are:

· **Slam Out Loud:** intentionally promotes the creative voice and confidence of disadvantaged children
· **Scholas Occurrentes:** educates people to be open to one another by 'the Culture of the Encounter'
· **Remake Learning Days Across America:** brings together a diverse array of educators, parents, families and caregivers with a festival in 15 US cities that celebrate learning opportunities in any community

2

RECOGNISE THE IMPORTANCE OF INTRINSIC *MOTIVATION* AS BEING CENTERED AROUND A GROWTH MINDSET, SELF-EFFICACY, AND A SENSE OF AGENCY.

Saku Tuominen, Creative Director at HundrED states that "One of the biggest challenges is that we tend to undervalue and undermine the role of will. Fundamentally everything else is secondary. If there is no will, real motivation, and self-efficacy, nothing meaningful happens creatively". For example, while the inclusion of creativity at a curriculum level shows a positive shift in mindset at the top-level, it does not mean a lot if concrete changes to include more *student voices* are integrated into teaching and learning. There are many ways to achieve this, but it could start with having fewer pre defined answers and outcomes in teacher planning so that students have the space to explore ideas and develop interests and passions.

Selected innovations that foster intrinsic motivation as being centered around a growth mindset, self-efficacy, and a sense of agency are:

· **Segni Mossi:** using a sensory approach in a non-competitive setting, Segni Mossi supports students to overcome fears that block creativity
· **Design for Change:** empowers students to be change agents through local community projects
· **Scholas Occurrentes:** promotes openness to one another with more than 400000 education centers
· **Kids Can! Innovation Camp:** provides students with the opportunity to lead their own learning as they tackle real-world problems aligned with UN SDGs
· **Slam Out Loud:** builds the confidence of children from disadvantaged backgrounds to express themselves in a wide variety of ways

3

**FOSTERING CREATIVITY IS EVERYONE'S BUSINESS
(NOT JUST THE ARTS TEACHER).**

For creativity to become more integrated into school systems, we need to think much broader than the art room. This idea is easier said than done as we should give teachers the time and resources to adopt and adapt modern pedagogies in their area of expertise. However, one practical way to achieve increased participation is to make learning visible through student-led exhibitions of learning from all areas in the school, which could occur throughout the school year.

Selected innovations that help all educators to foster creativity are:

- **Learning Creative Learning:** is a free world class online course and ongoing global community to explore principles and strategies to engage people in creative learning experiences across a diversity of contexts and domains
- **The Teachers Guild:** builds off the methods and mindsets from a design thinking toolkit for all educators
- **The Walking Curriculum:** can be used in any context to develop students' sense of place and to enrich their understanding of curricula topics

4

**PUT LESS EMPHASIS ON PROMOTING CREATIVITY FOR CAREER READINESS
AND MORE ON THE JOY OF LEARNING.**

The push to include creativity in school education is often rationalised through being prepared for the skills needed in the modern workforce. However, we think creativity education should put more emphasis on increasing confidence and the joy of learning for its own sake.

Selected innovations that exemplify a joy of learning through creativity are:

- **Segni Mossi:** brings together movement and art in workshops for learners and teachers alike
- **BRAC Remote Play Labs:** provides free play based learning centers for children 3–5 in low-resource settings
- **EL INGENIO. Center for Learning and Creativity Development:** allows students to explore making original projects in music, literature, arts, science, technology and creative industries

5

**CREATIVE PARTNERSHIPS SHOULD PROVIDE
RICH LEARNING EXPERIENCES OUTSIDE OF SCHOOLS.**

Creativity in schools is unlikely to reach its full potential if learning primarily occurs within its walls. Partnerships with various opportunities outside of school will be essential to provide a rich array of new learning experiences for children.

Selected innovations that exemplify creative partnerships are:

- **MyMachine:** creates connections between the 3-educational levels primary, secondary, and university aged students to create working prototypes of dream machines
- **Design for Change:** asks students to be socially aware to work in their community
- **Reap Benefit:** students drive change in their local community
- **The Educate! Model:** partners with youth, schools, and governments so youth in Africa can drive development in their communities
- **Designathon: Teaching for creative change-making:** works with children on every continent from diverse backgrounds

6
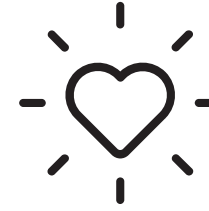
**SOCIAL-EMOTIONAL AND CREATIVITY SKILLS ARE LINKED;
THIS CONNECTION NEEDS TO BE CONSIDERED WHEN FOSTERING CREATIVITY.**

Many approaches to creativity primarily focus on individual skills like divergent thinking. How students cooperate through collaboration, however, is at-least as important for both holistic development and how they may apply creativity later in life.

Selected innovations that exemplify the development of social-emotional skills are:

- **BRAC Remote Play Labs:** fosters children's social-emotional and creativity skills through play
- **Out of Syllabus Project:** documents, designs, and celebrates the wisdom of teachers through a reflective process the students participate in
- **Scholas Occurrentes:** brings people together from diverse backgrounds to be open to one another
- **Slam Out Loud:** enables children from the most vulnerable communities to build social-emotional skills through self-expression

7
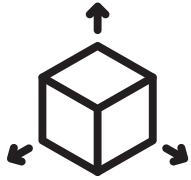
**WE SHOULD DESIGN TEACHING AND LEARNING
THAT ALLOWS FOR UNCERTAINTY IN SCHOOLS.**

Creativity can and should be integrated into traditional educational programming, but it is unlikely to thrive if teaching and learning is dominated by predefined outcomes with highly scripted and linear learning paths. By designing more activities that allow for uncertain outcomes and learning paths, we can enable students to engage in learning much more creatively.

Selected innovations that exemplify less boundaries and scripted teaching and learning are:

- **Segni Mossi:** a rule-bending method of creative education that brings together movement and art
- **Playground Ideas:** designs playgrounds using local materials for daily play
- **Out of Syllabus Project:** breaks down the barriers for more understanding between teachers and students
- **Brazilian Creative Learning Network:** implements playful, creative, and relevant hands-on educational practices

8

**CREATIVE ENVIRONMENTS NEED TO ALLOW
FOR STRUCTURED UNCERTAINTY, EXPERIMENTATION,
RISK TAKING AND THE BREAKING OF CONVENTIONS SAFELY.**

Educators need practical solutions that enable environments that allow students to explore with these characteristics. Mitchel Resnick[69] offers some guidance here: activities being implemented in an environment need to allow for *wide-walls* – where a diversity of approaches and outcomes from students needs to be seen for the teaching and task design to be considered successful.

Selected innovations that exemplify these characteristics are:

- **Arkki – Creative Education for Future Innovators:** students learn design thinking, critical thinking and complex problem solving through architecture and design
- **Scratch:** both a coding platform and online community that allows children of all ages to code, share, and remix their own stories, games, and animations
- **Reap Benefit:** connects students to their local communities
- **BRAC Remote Play Labs:** play-based learning centres for children ages 3–5 in low-resource settings
- … and all of the selected innovations in diverse ways.

9

WE NEED TO TREAD CAREFULLY IF WE INTRODUCE THE ASSESSMENT OF CREATIVITY.

While there are many open questions, issues, and concerns around the assessment of creativity, there are possibilities that research has revealed with interesting results. For example, The Torrance Test for Creative Thinking (TTCT) assesses divergent thinking and other problem solving skills with the four scales: fluency, flexibility, originality, and elaboration. However, we need the right framing when introducing these measures in order to avoid the possibility of constraining creativity only within these dimensions. At the same time, we need to be careful that student, enthusiasm, motivation and self-confidence to be creative is not diminished.

Selected innovations that help us to think about assessment differently are:

- **MyMachine:** through collaboration at three different levels, students are giving feedback to each other through building a working prototype of a 'dream machine'
- **Remake Learning Days Across America:** promotes the idea of exhibitions of learning to help parents, families and caregivers engage in innovative education
- **Out of Syllabus Project:** Students learn from teachers through their experience and monitor their consistency in living up to their life lessons

10

THE TRAINING OF TEACHERS AND LEADERS WILL BE ESSENTIAL IF CREATIVITY IS TO BE FOSTERED EFFECTIVELY IN SCHOOLS.

The development of learning plans that allow for a diversity of individualised responses from learners is inherently more demanding and resource hungry than traditional teaching methods of a pre-defined syllabus testing for comprehension, memorisation, and technical skills. Educators primarily need the time and resources to adopt and adapt modern pedagogies that foster creativity in their area of expertise.

Selected innovations that exemplify the training of teachers of leaders in creativity are:

- **Learning Creative Learning:** free online course and ongoing global community to explore principles and strategies to engage people in creative learning experiences
- **The Teachers Guild:** catalyse creative leadership through a design thinking toolkit for educators to design for the needs of their students
- **Out of Syllabus Project:** gets teachers to reflect and share their powerful life experiences for everyone to learn from

What Happens Next?

We do not believe improving education happens through publishing "yet another report" and leaving it at that. This is only just the beginning! From the findings here, we will be proactively promoting positive change in creativity education through the following ways:

1. HUNDRED CONNECT

Having good connections makes all the difference to thriving innovations in education; we have HundrEDs of them! Because we know effective practices and solutions are especially slow to be adopted and adapted to multiple contexts in education, after the release of this report we will be proactively helping the selected innovators with this process from our vantage point as a global organisation on an ongoing basis. HundrED Connect is a service exclusively for selected innovators committed to the purpose of helping our innovator community to increase their impact and reach with a powerful global network consisting of: other selected innovators for HundrED projects, funders, and implementers of education innovations.

2. SHARE

We want to keep the momentum of dialogue going across borders between governments, leaders, and teachers to share learnings and inspiring successes through the HundrED community on fostering creativity resulting from releasing this project. We implore everyone to tune in to this dialogue and participate from anywhere around the globe: please visit https://hundred.org/en/community to find out more. Moreover, following this report, we will be publishing a variety of articles about the selected innovators on their successes and learnings. Stay up to date with our media by subscribing to our newsletter and following us on social media: https://hundred.org/en/media.

3. HUNDRED SERVICES

HundrED Services is a co-creation process matching educator's needs with innovators' solutions to develop sustainable change in education ecosystems. We developed this collaborative approach to address the most pressing needs or goals of educators in school systems around the globe. Contact danny@hundred.org to start a conversation on improving creativity in schools.

A FINAL CALL TO ACTION FOR US ALL

Now it is up to all of us to take inspiration from this report to our local community. Let's cooperate and collaborate together on turning the ideas presented here *into action* so that we can help every child develop the creative skills they need to flourish in life.

> Let's cooperate and collaborate together on turning the ideas presented here into action.

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Appendix

Appendix A:
The Advisory Board

Name	Country	Category	Title	Organisation
Raymond Mitchel Africa	China	Educator	IB MYP Science and Design Educator	Manila Xiamen International School
Mustafa Aykut	Turkey	Leader	Principal – Advisor to BoD and CEO	Turkcell
Brett Bigham	US	Educator	Special Education Teacher	Portland Public Schools
Marja-Leena Bilund	Finland	Educator	Entrepreneur, Primary School Teacher, Montessori pedagog, Neuropsychiatric Coach, Entrepreneurship Educator, Mikkelin kaupunki	www.eduremix.fi & Mikkelin kaupunki – City of Mikkeli
Rosie Birks	United Kingdom	Educator	Teacher of English and Mathematics, Doctoral Researcher and Head of House	The Ecclesbourne School
Patrick Carroll	United Kingdom	Educator	Primary Computing / English / International Coordinator	Shaw Wood Academy
Neeraj Doddamane	India	Leader	Global Shaper	World Economic Forum
Hanna Dudich	Ukraine	Educator	Vice-Principal and EFL Teacher	Taras Shevchenko Himnazia
Nneamaka Enechi	South Africa	Educator	Dean of Instruction	Ormonde
Natalia Fenix	Mexico, Germany	Educator	Dance Educator & Choreographer	Freelance
Diane Fisher-Naylor	United Kingdom	Educator	Director of Programmes	Creativity Culture and Education (CCE)
Preeti Gahlawat	Sweden	Educator	High School Teacher	Rödabergsskolan. Stockholm
Andrew Garrad	United Kingdom	Leader	Projects & Information Officer	Creativity Culture and Education (CCE)
Sarah Gravett	South Africa	Academic	Executive Dean: Faculty of Education	University of Johannesburg
Megan Grieco	United States	Educator	Teacher Specialist, The Help Group	Westview School of Arts and Technology
Elise Howard	Australia	Academic	PhD Candidate, Primary School Teacher, and Leader of Learning	University of Newcastle
Rakhi Iyer	India	Educator & Storyteller	PEEK-A-BOOK and Kitabi Keeda for Kids – A learning and Reading platform based on Story Pedagogy	Freelance
Garrett Jaeger	United States	Academic	Research Specialist, Play & Creativity	The LEGO Foundation
Rhian Jones	United Kingdom	Educator	Head Teacher	Ysgol Y Faenol Denbighshire
Milan Kumar Sardar Tharu	Nepal	Innovator	Social Entrepreneur	Teach for Nepal Alumnus, Himalayan Development Initiative Project Lead
Sari Lantto	Finland	Educator	Rehtori/Headteacher, Apple Distinguished Educator	Ylitornion yhteiskoulun lukio
Sagumo Malenda	Tanzania	Educator	Ambassador	HundrED
Emily McCarren	Honolulu	Educator	Academy Principal	Punahou School Honolulu
Yorimitsu Nakayama (at LIC)	Japan	Educator	English high school teacher	Okayama Prefecture
Neelakshi Naolekar	India	Educator	Founder Director	Chetas Centre for Child development
Linda Nathan	US	innovator & academic	Executive Director	Center for Artistry and Scholarship
Ngô Thành Nam	Vietnam	Educator	Principal	Inspire School
Olajide Olateju	Nigeria	Educator	Education and business consultant, Poet, Rapper and Author of the book "Rap Music as A Tool for Socio-Political Change in Africa"	Still Massive Group
Ronica Pardesi	South Africa	Educator	Deputy Chief Education Specialist	Gauteng department of Education Johannesburg Central District
Katelyn Patterson	United States	Educator	Science Teacher and STEAM Coordinator	Village School
Andi Price	United Arab Emirates	Educator	Class Teacher, Dubai	Ranches Primary School
Namrita Rathee	India	Educator	Instructional Leadership Coach	Consultant
Ella Schlotbohm	Germany	Student	Student	University
Sahil Siddique	India	Educator	Education Evangelist – Learning & Development	Freelance
Rosa Maria Torres	Ecuador	Educator	Researcher and International Adviser on Lifelong Learning	Freelance
Shwetabh S Verma	India	Innovator/consultant	Founder & CEO	Adisyam
Nsabimana Zaburoni	Rwanda	Educator	Founder and CEO	Kigali Peace Club
Andria Zafirakou MBE	UK	Educator	Associate Deputy Head Teacher	Alperton Community School

Appendix B:
Summary of Definitions
of Thematic Terms

Global Citizens – global citizenship is the idea that one's identity transcends geography or political borders and that responsibilities or rights are derived from membership in a broader class: "humanity".

Problem solving – is the mental process of searching for an original and previously unknown solution to a problem.

Traditional school subjects – Subjects found commonly found in regular government schools such as: Literacy, Mathematics, Science, Arts, Social Studies, Physical Education etc.

Mindset – Mindset refers to whether you believe qualities such as intelligence and talent are fixed or changeable traits.

Desirable career attributes – Traits such as: teamwork, communication, interpersonal skills, professional attitude, adaptability, flexibility.

STEAM subjects – STEAM education stands for any combination of Science, Technology, Engineering, the Arts and Mathematics.

Design thinking – Design thinking refers to the cognitive, strategic and practical processes by which design concepts are developed.

Entrepreneurship – Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings.

Holistic development – The development of intellectual, mental, physical, emotional, and social abilities in a child so that he or she is capable of facing the demands and challenges of everyday life.

Expressing oneself – Reveal or portray one's feelings or views through speech, writing, some form of art, or behavior.

Community building – the creation or enhancement of community among individuals within a regional area (such as a neighborhood) or with a common need or interest.

Teacher development – activities that develop an individual's skills, knowledge, expertise and other characteristics as a teacher.

Learning environments – the diverse range of physical locations, contexts, and cultures in which students learn.

Leadership – the process which helps expand the capacity of individuals to perform in leadership roles.

Low socioeconomic – students coming from households or contexts that do not have enough money to meet life's basic needs: shelter, maintaining health and wellbeing, food, and clothing.

Play – describes how a child can learn to make sense of the world around them.

EdTech – refers to hardware and software designed to enhance teacher-led learning in classrooms and improve students' education outcomes.

Appendix C:
Overview of Selected Innovations

Innovation	Country	Number of countries spread to	Number of Users	Funding	Focus of the Innovation	Short description
Arkki – Creative Education for Future Innovators	Finland	7	25 000	For Profit	Architecture Education	A leading institution in creative education via architecture and design for children in the world.
BRAC Humanitarian Play Labs	Bangladesh	3	76 000	Not for profit	Low socioeconomic	Facilitating learning, development, and healing for refugee children through play.
Brazilian Creative Learning Network	Brazil	1	200 000	Not for profit	Community building	The Brazilian Creative Learning Network is a grassroots movement that implements playful, creative and relevant hands-on educational practices in schools and non-formal learning spaces throughout Brazil. To achieve that, BCLN organizes programs and events that give voice to thousands of educators, researchers, managers, entrepreneurs, artists, families and students from the whole country.
Design for Change	India	72	2 000 000	Not for profit	Mindset	Design for Change is a global movement that cultivates the 'I CAN' mindset in every child.
Designathon: Teaching for creative changemaking	Netherlands	38	75 000	Not for profit	Teacher Training	Professional development to cultivate creative changemaking in children.
EL INGENIO. Center for Learning and Creativity Development	Mexico	1	20 000	Not for profit	Low socioeconomic	A proven model for creative development among children and youth through arts, music, literature, science, technology and creative industries.
Kids Can! Innovation Camp	Philippines	16	4 000	Not for profit	Designathon	Empowering global kids to help solve global problems, one idea at a time.
Learning Creative Learning	United States	60	30 000	Not for profit	Teacher Training	An online course and community of educators, designers, and tinkerers exploring creative learning through projects, passion, peers, and play.
MyMachine	Belgium	12	11 000	Not for profit	Challenge	MyMachine is a unique collaboration of all educational levels to create dream machines invented by kids.
Playground Ideas	Australia	125	2 000 000	Not for profit	Play	How can the power of play improve a child's educational outcomes?
Out Of Syllabus Project	India	2	8 000	For Profit	Mindset	Project FUEL documents life lessons of people & designs them into interactive & performance workshops, art projects & digital media.
Reap Benefit	India	1	45 000	Not for profit	Problem solving	Activating young citizens to solve local civic and environmental problems.
Remake Learning Days Across America	United States	2	150 000	Not for profit	Community building	RLDAA is a festival of creative, hands-on experiences for youth and families to learn together about how education is being remade.
Scholas Occurrentes	Argentina	15	1 000 000	Not for profit	Community building	Pope Francis deemed Scholas as a concrete solution to respond to the call of this era. He has undertaken the task of educating people to be open to each other, believing that by listening to the fragmented pieces of our current world we can create a new culture: the culture of the encounter.
Scratch	United States	163	43 000 000	Not for profit	STEM	Scratch engages millions of children around the world in coding and sharing projects to express their ideas and develop their creativity.
Segni Mossi	Italy	25	9 100	Not for profit	Art	Want to blend dance and drawing in creative group workshops?
Slam Out Loud	India	16	79 988	Not for profit	Mindset	We leverage the power of visual and performing arts to build Creative Confidence (SEL, 21st century skills) in disadvantaged children.
The Educate! Model	Uganda	3	46 000	Not for profit	Entrepreneurship	Educate! prepares youth in Africa with the skills to succeed in today's economy.
The Teachers Guild	United States	1	100 000	Not for profit	Teacher Training	Teachers are the innovators education has been waiting for.
The Walking Curriculum	Canada	11	100 000	Not for profit	Environment	The Walking Curriculum is an innovative interdisciplinary resource for educators K-12 who want to take student learning outside school walls.

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HundrED.org is a not-for-profit organisation that discovers and shares inspiring innovations in K12 education. HundrED.org's goal is to improve education through pedagogically sound education innovations.

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