

Women, robots and a sustainable generation

Jacobs, Rachael; French, Claire

License:

Creative Commons: Attribution-ShareAlike (CC BY-SA)

Document Version

Publisher's PDF, also known as Version of record

Citation for published version (Harvard):

Jacobs, R & French, C 2021, *Women, robots and a sustainable generation: Reading artworks envisioning education in 2050 and beyond*. UNESCO. <<https://unesdoc.unesco.org/ark:/48223/pf0000375578>>

[Link to publication on Research at Birmingham portal](#)

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.



Education
Sector

United Nations
Educational, Scientific and
Cultural Organization



Women, robots and a sustainable generation:

Reading artworks envisioning education in 2050 and beyond

This paper was commissioned by UNESCO to analyze the artworks submitted in response to UNESCO's call for contributions on what education will look like in 2050, within the framework of the Futures of Education initiative. This paper can be cited with the following reference: Jacobs, R. and French, C. 2021. *Women, robots and a sustainable generation: Reading artworks envisioning education in 2050 and beyond*. Paper commissioned for the UNESCO Futures of Education report (forthcoming, 2021).

© UNESCO 2021

Photo credit: Ollyy/Shutterstock.com

This work is available under the Creative Commons Attribution-ShareAlike 3.0 IGO licence (CC BY-SA 3.0 IGO); <https://creativecommons.org/licenses/by-sa/3.0/igo>.

For further information, please contact: futuresofeducation@unesco.org

Authors: Rachael Jacobs, Western Sydney University and Claire French, University of Warwick

Table of contents

Overview.....	3
Introduction	5
Why consider artworks?.....	5
Methodological approaches	6
Findings.....	7
1. Technological change	8
2. Quality education	9
3. Environmental sustainability.....	12
Women and girls: Data gaps and intersections	13
Conclusion.....	14
References	15
Situating the researchers	16

Overview

UNESCO's Futures of Education initiative aims to rethink education and shape the future. As part of a broad open consultation, an independent international commission harnessed the imaginations of artists throughout the world with an open call to creatively respond to the question: *What does education, learning and knowledge look like in 2050?*

This analysis represents the reading of 218 artworks submitted in response to the open call received between September 2019 and October 2020. The artworks were submitted to UNESCO via the online platform from all regions of the world – the majority of artists aged sixteen to thirty years old (62%) and identifying as female (60%). Through careful analyses of artwork submissions, the analysis points to defiant individual perspectives across key themes, echoing many of UNESCO's key priorities. Artists have explored a set of themes across optimistic and pessimistic dimensions, many warning against a future driven by current leaders and with existing policies.

Technological change. In a year where a pandemic has replaced individual and onsite accessibility with digital and online connectivity, it is unsurprising that technological change is the most popular theme amongst the artworks. Artists cover artificial intelligence, robots, human evolution and global connection as part of their articulations of the capacities of technology. Most submissions see technological change as the method for achieving their vision of education, although not always illustrated with optimism. The discrepancies between perspectives exemplify the current global understanding of how technological change can be used for both good and bad: its potentially negative impacts on quality education, social upheaval, inequality and the realistic end of the earth, up against its great potential for global connectedness, equality and open access to education.

Quality education. A high number of artworks prioritised a generally improved environment and processes conducive to learning. Resonating with Sustainable Development Goal 4, a focus on quality relates to the artists' attention to students receiving a superior education characterised by increased care from educators, a rethinking of institutions and an egalitarian view to sharing resources. Seen in the artworks is also a careful selection of resources, rather than a necessary felt increase in resources, marking a shift away from individualism and consumption models that characterise the 20th and 21st Centuries. This dominant point of view might come through increased access to technology, and thus into seeing the so-called developing countries' unguided affluence spoiling education but not necessarily improving upon it.

Environmental sustainability. The precariousness of the environment is encapsulated through a proportionate number of artworks dealing with climate change, global warming, the climate catastrophe, environmental degradation, the effects of industry and a push for a sustainable future. Issues of the earth beyond humans abound throughout the submissions - with plants, trees, branches, animals or other symbols of nature or growth - suggesting a relationship between the environment as a gateway to better education. The majority are optimistic that some solutions regarding environmental sustainability will be achieved including outcomes such as a societal rebirth with the next generation; a transfer of power from individuals to communities; a secular approach which brings together multiple beliefs; and a new turn towards valuing and protecting animals. Thus, even when optimistic perspectives are taken, they are framed in an action-orientated approach towards achieving more positive outcomes than imposed by the current reality.

Women and girls. When analysed from a gender perspective, the artworks show a prominence of female figures which may suggest that women's leadership in community and education is important for the future of education. The artworks show young girls and women as prominent figures, often appearing to be protagonists of their story; the supporters of the protagonist's journey; or central figures in the wider community. Women are featured as survivors of repressive regimes, as mediating spokespeople of communities, as skilful experts in extensive fields and as figures that should be celebrated; while girls are captured joyfully in fantastical designs for play, and as inquisitive minds for much-needed innovation. At times, artworks portray systemic barriers towards women's leadership and success, such as violence against women.

Introduction

UNESCO's *Futures of Education* initiative aims to rethink education and shape the future. An independent International Commission has been convened to develop a global report on the *Futures of Education* that considers the views of a range of stakeholders, received through a broad process of consultation. As part of this consultation, UNESCO has harnessed the imaginations of artists throughout the world with an open call to creatively respond to the question: *What does education, learning and knowledge look like in 2050?* The artwork submissions are one of several consultation channels included in developing the forthcoming report (2021) of the International Commission on the *Futures of Education*, looking to reframe the purpose of education and the organization of learning opportunity in a changing world.

UNESCO's invitation to artists is indicative of its commitment to access, co-creation and creativity, providing opportunities for the greatest number of voices to impact the debate. This report amplifies these voices by providing precise readings of participants' artworks in response to the broad question posed, against the background of the emerging themes that collectively arose amongst artworks.

Key themes include technological change, environmental sustainability, equality for women and girls and the next generation, echoing many of UNESCO's key priorities; however, notable is the severity of perspectives which envision extremely optimistic or pessimistic ends. Technological change, as the key theme by far, is treated as both the catalyst to the end of the earth as well as the journey to open and equitable forms of education; while global connectedness is treated as a destructive force that deteriorates notions of the 'local', at the same time as an outlet for intercultural learning and empathy.

This report uncovers the readings of artists' visions of education, learning and knowledge in 2050, structured as case studies situated within a wider discussion of their approaches to engaging with pressing themes of global relevance. Where possible, artworks are read in relation to their unique socio-political and historical contexts, aided by some demographic information of artists.

Why consider artworks?

The International Commission gave artists very few guidelines with regard to the content and form of the responses, simply asking, via an open call on the UNESCO website, that people "depict what education, learning and knowledge might look like in the year 2050 [...] Feel free to depict what you hope for or what you fear" (UNESCO, 2020).

The International Commission's open and encouraging invitation avoids artistic languages which might be inclusive to some and not others. For example, the terms 'visual expression', 'creative visions' and 'submissions of artistic creations' each parallel one another as terms that vaguely indicate an artwork without pre-disclosing regional or cultural hierarchies of artistic forms. Additionally, key to the call is that artists do not need to provide positive distillations of education, learning and knowledge in 2050. This statement is reflected in the artworks, many of which provide warnings of our potential shared futures.

The call for submissions declares that "at many moments people in different parts of the world have turned to visual expression to present their hopes, fears and ideas about the future" (UNESCO, 2020).

Indeed, artistic expression is a language through which we think, communicate and research and can be employed as a form of cultural critique (Norris et al., 2019). Artmaking is a personal act of self-expression as well as a gift to the viewer. It can be an act of political activism or a way to make a statement, as much as it can be a process by which one makes sense of the world.

UNESCO is adding to a long history of codifying and passing down knowledge through visual images. Phillips (2003) suggests that artworks activate a primal understanding within us that allows us to experience multiple realities and see the world from another's perspective. Artmaking is additionally a multisensory practice that is evocative and illuminative, creating recursive expression and generative possibilities (Bhattacharya, 2019). Art can create statements or expressions and distil meanings that may not be possible through words alone.

In an area as heavily theorised as education, it can be difficult to capture the thoughts, feelings, hopes and fears of a global population. Visual Artist, Olafur Eliasson (2016), believes that artists have the capacity to help people to understand phenomena, not only with their minds, but also physically and emotionally. He asserts that art can mitigate the numbing effect created by information overload and motivate people to turn thoughts into actions. Highly evocative artworks can inspire creative solutions or prompt imaginative thinking. The challenges of education in our current times are unlike any experienced previously and it is creative and imaginative thinking that can inspire us to look deeper to find solutions not previously obvious.

Art is a powerful medium and has shown to be a democratising force in the submissions to *Futures of Education*, as individuals of various ages, geographical locations, political contexts and socioeconomic circumstances have been able to discern and communicate their unique visions for education in 2050.

Methodological approaches

The artworks were analysed through a mixed methods qualitative and quantitative approach, allowing for close readings of artworks based on their individual qualities, while assessing greater thematic trends in the data. In total, 218 artworks were submitted to UNESCO via their online platform. The demographic features of those who submitted include a global spread of individuals living in Latin America and the Caribbean (60%); Europe and North America (20%); Asia and the Pacific (8%); Arab States (6%); and Sub Saharan Africa (6%), with accompanying synopses in varieties of Arabic, English, French, Mandarin, Russian and Spanish. Generally, trends in the demographic features of submissions include the largest numbers of those sixteen to thirty years old (62%) and female-identifying artists (60%).¹

The researchers digitally received the artworks, along with a synopsis of each (written by the artist), and information on the country, city and language, gender and age of the artist, if this information was disclosed.

Approaches to coding and patterning the data separated the artworks into two spreadsheets based on whether they were original artworks or borrowed. Originality was defined by the artwork being created

¹ The greatest quantity came from schools in Mexico embedding this task into their curricula, thus making the demographic information unreliable when gauging global indicators of access, either to UNESCO's mediums of communication or technology more generally.

by the person submitting them. Originality was checked by uploading artworks to the Google Image search feature when they, 1) didn't explicitly state that the artwork was their own creation, 2) nor illustrate approaches involved in its making, 3) nor show other signs within the artwork itself that it was their own. From this process, ninety-nine original artworks were placed in one sheet for qualitative analysis and the entire list in another sheet for quantitative analysis. This split is justified through the qualitative analysis requiring a reading of the visual languages employed in response to UNESCO's call, rather than merely a reading of the intentions and interests explicated within the synopsis.

The qualitative analysis aimed to provide close readings of each individual artwork as a visual response to the key question: *What does education, learning and knowledge look like in 2050?* The analyses were grouped under the headings: Medium; Colours/tone; Setting and content; Symbol/ signifier; Relationship to context; Key words; Interpretation researcher 1; Interpretation after reading the synopsis, researcher 1; Interpretation researcher 2; Interpretation after reading the synopsis, researcher 2; and Notes on translation. These headings provided scope for researcher positionality, the multiple potential meanings conveyed and considering the artworks alone, without the influence of the synopsis, nor the second researcher.

The quantitative analysis was approached through thematic categorisation of the entire number of artwork submissions. Since over half of the submissions originated from online sources, we discerned how this data might be best read to echo or challenge the qualitative readings. The synopsis was thus engaged as the central submission, analysed in relation to artwork. The headings were separated into two themes: Primary theme 'what' and Secondary theme 'how', followed by the categorical distinction between whether 'pessimistic', 'neutral' or 'optimistic' when charting relationships to the key themes. The primary themes aimed to discern artists' key visions of education, while the secondary themes suggested the method communicated for achieving this vision. Overall, the quantitative analysis provides a wider view of differing and multivariate conceptualisations of education in 2050 and how these visions might be achieved.

At the conclusion of the qualitative and quantitative data analysis, themes were distilled, and illustrative examples were selected as case studies to represent major themes and ideas in this report.

Findings

The three most common themes emerging in the artworks are:

- Technological change;
- Quality education;
- Environmental sustainability

Primary themes also include improving institutions, an innovating and a burdened next generation, creativity, open access to education, societal rebirth, improving educators, equality, end of the earth, artificial intelligence and gender equality. There are thematic crossovers which will be pointed to and contextualised throughout the case studies.

The most popular secondary themes, or the methods for which the primary themes can or will be obtained, include technological change, improving institutions and an innovating next generation, closely followed by co-creation, creativity, improving educators, quality education, global connections, environmental sustainability, education from the family and war. The detailed discussions of individual

artworks in the case studies that follow suggest the complex intersections and relationships between these themes.

The images that are individually analysed in the following three main sections are artists' original submissions. They are selected based on the merit of the individual artwork and how they each differently allow ways into discussing the central themes.

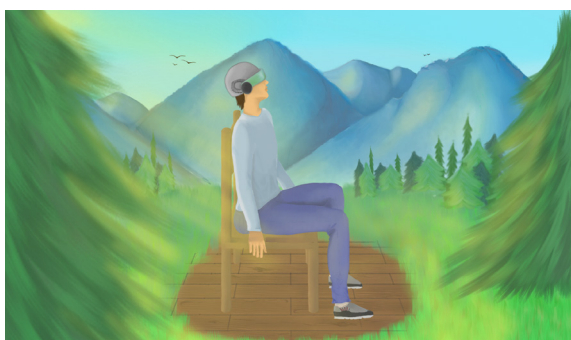
1. Technological change

In a year where a pandemic has replaced individual and onsite accessibility with digital and online connectivity, it is unsurprising that technological change yields the greatest popularity thematically amongst the artworks. A third of submissions dealt with technological change in total, with half of these suggesting it as their vision of education, learning and knowledge in 2050, and half as the method for which other grand visions might occur.

Geographically, those most concerned with technological change come from Europe and North America, and Latin America and the Caribbean. Artists cover artificial intelligence, robots, human evolution and global connection as part of their articulations of the capacities of technology. Of the submissions that see technological change as the outcome for 2050, almost three quarters are optimistic about it being achieved, while the rest pessimistically forewarn of the pitfalls of such an outcome. For those that see technological change as the method for achieving their vision of education, just less than half of them treat it with optimism. The discrepancies between these data sets exemplify the current global understanding of how technological change can be used for both good and bad: its potentially negative impacts on quality education, social upheaval, inequality and the realistic end of the earth, up against its great potential for global connectedness, equality and open access to education.

It is these contradictions and pluralities that uniquely dialogue within the artworks to provide powerful bodies of knowledge for individual analysis. The following artworks bring to light differing articulations of education, learning and knowledge for 2050, selected based on how they provide examples of technological change as a primary theme, in dialogue with prominent secondary themes.

'Realidad virtual', Logroño, Spain



Translated as 'Virtual Reality', this artwork provides an interpretation of education, learning and knowledge that sees it coupled with artificial intelligence in order to offer an image of more accessible, productive and faster learning opportunities for the future. Visually, the colours and shapes are clearly demarcated as though they are digitally constructed; however, lines are softened, forging a dream-like confusion between the end of one object and the beginning of another. Additionally, it is

possible that the virtual reality has taken over the richness of actual reality, losing the ability to authentically experience our natural world. This submission highlights the untapped possibilities of artificial intelligence for education in 2050, while warning of the potential replacement of the real with the virtual.

'Ecole buissonnière,' Cameroon

Translated as 'Truancy', this piece suggests that technological change puts into question the role of local institutions. The artwork illustrates multiple potential meanings that shine a light on globalisation and its negative influences on education in developing regions. The artist suggests that technology is a positive influence on learning and life, improving access to information, knowledge and connection to the rest of the world. The symbolism of building bricks is also pressing, as it suggests a solid foundation. However, this image also insinuates the child lacking access to even the most basic resources, such as a desk and a chair, to aid his educational journey. A major problem results from the moment that his tablet sees him continually gazing away from the nature behind him. Thus, education is pictured as steering ahead in a preordained globalised trajectory.

'Digitalización,' Marín, Mexico

This artist provides an image of a new digital age in 2050, as embodied by a female robot, with her work 'Digitalización'. The dramatic colour shift between 2020 and 2050 is significant, as it alludes to the evolution of the self from human to post-human over the temporality of a generation. The synopsis and title stress a view of digitalisation that focuses on advancement 'without forgetting the human'. This illuminates the lack of fear held by the artist for what the digital or technological world might do for education. The evolution of mathematical language to signs for digital communication suggest that the evolved self will communicate and exist in new uncharted ways. Thus, education includes greater social and cultural intelligibility throughout the globe.

2. Quality education

An emphasis on 'quality' in relation to the future of education is read from a high number of artworks that prioritised a generally improved environment and processes conducive to learning. This reading reflects the United Nations' Sustainable Development Goal 4, which works to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2015). Artworks choosing quality education as their primary outcome for 2050 were a fifth of the submissions with marginally less seeing it as a method to achieving another dedicated outcome such as environmental sustainability, improved institutions or technological change.

The geographical spread of those focusing on quality education include artists mostly in Asia and the Pacific, the Arab States and Sub-Saharan Africa. The emphasis on 'quality' over other adjectives in our categorisation resonates in the artists' attention to students receiving a superior education. This superior education is characterised by increased care from educators, a rethinking of institutions and an egalitarian view to sharing resources. Seen is also a careful selection of resources, rather than a

necessary felt increase in resources, marking a shift away from individualism and consumption models that characterise the twentieth and twenty first centuries. These perspectives that highlight quality education echo Ulrich Beck's view of reflexive modernisation which situates and 'disembeds' institutional structures for a greater communal good (Beck, 2014). Reasons for this dominant point of view amongst artists might come through their increased access to technology, and thus into seeing the so-called developing countries' unguided affluence spoiling education but not necessarily improving upon it. Over three quarters of those focusing on quality education are optimistic in their treatment of the subject, suggesting some reliability of this theme and its place on the *Futures of Education* agenda.

The artworks are selected based on their varying articulations of quality education in relation to vital secondary themes such as improving institutions, co-creation and gender equality.

'Ecole connectée', Dakar, Senegal



The title of this work translates as 'Connected school' as it imagines a new model for the institution that is dedicated to students' individual learning needs for higher quality education outcomes. The synopsis and title suggest that this connected school is without prejudice or discrimination and one which learners are 'questioning the often-obsolete learning methods and ties in with the new technological deal materialized by the avatar or the hologram.' The complexity of the individual ways of learning is seen

in this work, and with it, a departure from traditional educational structures and institutional models. A checker playing board is the foundation of this new institution, as an ode to the importance of play in children's lives. Learners are drawn with roots growing from their minds, kept challenged and occupied via their access to unlimited digital resources. Learners are autonomous in their learning journeys, unhinged from the responsibilities of the teaching-learning dynamic; however, the learning is highly individualised and with no hint of collaboration or cooperation. Education in 2050 thus includes learners flourishing in their own constructed worlds, with interactions outside of their own pursuits not apparent.

'El niño que no sea abrazado por su tribu, cuando sea adulto, quemará la aldea para poder sentir su calor', Gustavo A. Madero, Mexico

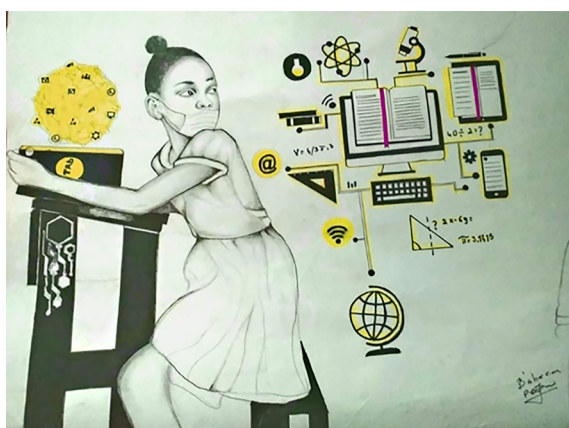


The title loosely translates as 'The child who is not embraced by their tribe when they are an adult, will burn the village to feel its warmth', providing insight into the influence of the local community's care on the future of education.

This collage includes several layers of hands that appear to be a collaborative artwork from a class or group, and thus contain the real shape of current students' hands. Central to this image is nail polish, often gendered as female, and thus signalling a female-driven care within the community as secondary themes. Collectively this image looks to depict the girl at its centre as the learner, cradled

and celebrated so that she might flourish rather than fall. The girl wears pigtails and thus represents youthfulness and play, again accentuating the opportunity for trying out new things while supported. The synopsis has an enduring emphasis on the role of women in the ‘tribe’ who embrace the child, as well as the ‘village’ supporting the moral environment for the child. It also describes the fundamental role of the purple background, and how it visualises wisdom, truth, femininity and dignity, as well as the tension with opposing states of decadence, arrogance, introversion and repression. Education thus reverberates through the harmonic and clashing voices of the community.

‘Le futur’, Saint-Louis, Senegal



This image translates as ‘The future’ to connect women in education, technology and quality education, in conjunction with the contemporary context of the COVID-19 pandemic. Despite the immediate challenges, education, knowledge and learning are able to prosper through creativity and innovation. The young girl illustrated continues to create fuel amongst the chaos, while the pandemic serves to remind individuals of the temporary nature of our realities. The next generation is resilient and has adopted a growth mindset. The young girl is drawn as courageous and capable of big things

tomorrow. The artist’s synopsis provides a poetic description, translated ‘If crises reveal or amplify the problems of societies, they can also open up happy prospects and solutions for the future. The Covid crisis offers this tremendous opportunity for digital education and advises to install it sustainably and widely in our education systems’. Seen is a sturdy optimism for the future, particularly for girls in the more sustainable new face of education.

‘Yellow balloon’, Ann Arbor, USA



Education, learning and knowledge are connected to the land and community, which each share a role in teaching and guiding students. This reading echoes the artist’s synopsis, which says ‘the guidance they need is merely supervision, little facilitation. They have the answers’. This painting features a small group of students with their backpacks, suggesting movement and adventure, in Arusha, Tanzania (stated in the synopsis). The yellow balloon can be a symbol of the hope, wisdom and vulnerability of those being educated. The prominence of human contact, close proximity and connection

suggests that there are several ways to initiate successful education in the future, many of them transcending technology and prioritising trust and safety.

3. Environmental sustainability

The environmental precariousness of the present moment is encapsulated through a proportionate number of artworks dealing with climate change, global warming, the climate catastrophe, environmental degradation, the effects of industry and a push for a sustainable future. There was the largest gap between those that put forward environmental sustainability as their key outcome in 2050 and those who presented it as a method for achieving outcomes including quality education or societal rebirth. Issues of the earth beyond humans abounds throughout the submissions, with plants, trees, branches, animals or other symbols of nature or growth featuring throughout, suggesting a relationship between the environment as a gateway to better education.

Geographically, the spread of those discussing this theme are across all areas of the data: Asia and the Pacific, Europe and North America, and Sub-Saharan Africa. Of these submissions, almost all are optimistic that some solutions regarding environmental sustainability will be achieved. These solutions included dire outcomes such as a societal rebirth with the next generation; a transfer of power from individuals to communities; a secular approach which brings together multiple beliefs; and a new turn towards valuing and protecting animals. Thus, even when optimistic perspectives are taken, they are framed in an action-orientated approach towards achieving more positive outcomes than imposed by the current reality.

The artworks selected show both the light and shade of this topic in dialogue with a several important secondary themes.

'Peace and education future', Doha, Qatar



This work illuminates the many hands that come together to achieve societal growth and change. Education, learning and knowledge is illustrated in its reinterpretation for the new generation of tomorrow. This artist optimistically draws a hand planting a tree, which itself is surrounded by sunlight to become everything that it should be. The circular theme encourages us all to think through generations which can allow new life to prosper, while forging new life-giving systems for the rapidly changing world. The contrast of the cool coloured hand of giving and growth against the warm background demonstrates a hopeful and illuminated future for education.

'Eduacación reflexiva 2050', Marín, Mexico



Translated as 'Reflexive education 2050', this artwork suggests the contamination of education by a contagion that underlies our current world: Greed, corruption and resources in the hands of the richest. The artist's synopsis points to the importance that we turn to critical and reflective thinking as an antidote to the damage generated. Their words help to shine a positive light on our reading of the image, particularly how the right eye is constructed: Rather than seeing it as an eye that is looking solemnly into our past, it is one that critically reflects on a less corrupt future. The eyes appear drowned by multiple elements. One eye is

rolled back, signalling apathy, while the careful detail in the other eye symbolises the colour, vibrance and complexity behind this woman’s life and soul. We are provided ways into these eyes through their 3D and multitone effect. The metallic hues of the horizon create depth for a worn world, with the shadows of limbs and bodies lining the painting. The relationship between these people living in the shade and the woman’s eyes represents the hierarchical division of the world, and one where education is deeply embedded. The symbolism of women and their relationship with the earth is significant to this vision of education, represented as a deeply connected symbiosis which reflects the full spectrum of the human experience.

‘Mi aula de clases en Uganda; Medellin, Colombia



‘My classroom in Uganda’ reimagines the notion of education within the foundations of a sustainable and wall-less environment. Seen is a representation of communal outdoor education, a stark departure from the institutionalised surroundings enforced in Africa through colonialism and legitimised by the global north. The children sit learning, protected by the luxurious undergrowth of a tree. The flowering protection of the tree suggests health and resilience. Notably, there look to be two learning instructors; a black teacher with the students under the tree, while a white teacher stands back a few metres. This distance suggests that communities faction together, despite the rhetoric of globalisation. It also images whims of colonisation where white teachers have been problematically brought into communities to create change, so-called civility and progress; however, it is possible that the white teacher, still pictured under the shelter of the tree, is included in the bigger picture of education imagined by this artist.

The person who submitted this artwork isn’t necessarily the artist; however, their synopsis suggests that the painter is local. Since the focal point is their classroom in Uganda, the submission interestingly presents a reinterpretation of the image as a meaningful symbol of the learner’s future. The synopsis also claims that education and knowledge should be for ‘all the children in the world’, centralising their own place in the educational movements of the future. This is a fresh decolonising perspective on how education may look in 2050, particularly when read against those emphasising digitalisation and non-human forms.

Women and girls: Data gaps and intersections

There are several gaps within the methodological approaches of our analysis that conceal some data in order to accentuate others. We are aware that while the subject of women and girls was paramount to our qualitative readings, it became hidden within the quantitative readings as a result of our approaches to categorising only two themes. These intersectionalities, where women and girls are both central and additional to other goals of sustainability and change, are discussed here.



The artworks above are few of the representations of women and girls that feature in the submissions across the other key themes. These artworks² show young girls and women as prominent figures, often appearing to be protagonists of their story; the supporters of the protagonist's journey; or central figures in the wider community. Women are featured as survivors of repressive regimes, as mediating spokespeople of communities, as skilful experts in extensive fields and as figures that should be celebrated; while girls are captured joyfully in fantastical designs for play, and as inquisitive minds for much-needed innovation. At times, artworks portray systemic barriers towards women's leadership and success, such as violence against women. The prominence of female figures suggests that women's leadership in communities and education is considered a major factor in the Futures of Education that can be interrogated by UNESCO's investigations. Furthermore, the positivity and hope with which they are featured supposes the artists view them as unifying voices to take forward the future of education.

Since the artworks submitted are largely quite clear and direct in their approach to envisioning education, the demographic features of the subjects or objects at their centre became peripheral to the categorical analysis. Therefore, in focusing on key thematic categories, we have prevented some possibilities for intersectionality. To explore the role of women and girls in the future of education more adequately, the scope of this inquiry may be broadened to include greater thematic analysis, thereby elucidating intersections between themes.

Conclusion

Reading artworks submitted has exemplified the power and complexity of creative submissions for discerning the future of education. The potency of creativity runs deep throughout every submission and the processes of reading them. The analysis suggests how we individually and differently contribute to the steppingstones of our shared futures, based on our age, class, location and employment. In many ways, our generations are held to account for the havoc we have wreaked on the earth, forcing us to contemplate what it might be like to grow up with the end of the earth in sight. Very apparent, and often in brutal ways, artists have shown knowledge of the fallibility of the earth. Uncovering and grappling with the multiple points of view is a privilege that we might not otherwise access. We are hopeful that public access to these artworks might multiply this consciousness to read their call to action in new and meaningful ways.

'Our earth and the climate change', Doha, Qatar



Additionally, artists have presented critical examinations of leadership which continues to ignore the greater good of the earth and the next generation. It is for this reason that this report is titled 'Women, robots and a sustainable generation', amplifying how the submissions cohere to evidence the existence of a sustainable generation. Many of the artworks are warnings of what chaos might ensue; while others tolerate the present disarray in order to think bigger, metamorphosing into idealism. Some highlight the critical moment in which we find ourselves, being at a critical junction whereby we need to choose a path towards survival and flourishing, or destruction (see image above). Either way, the vast majority of the artworks live and

2 'Maltrato a la mujer', Mexico; 'Balanced Education', Senegal; 'Learn with head, hearts and hands', Germany; 'Nos toca cuidar muy bien a nuestra pequeña vida', El Salvador; 'Conectado', Mexico; 'Ladybug', Mexico; 'Dia internacional de la mujer', Mexico.

grow alongside the knowledge that they will increasingly deal with the consequences of the previous generations, placing their hope into the next, sustainable generation.

Education, learning and knowledge are therefore imagined as either responses to our consequences or as dreams beyond them. At the centre of these representations of change are local communities of care, women, families and a changing role of educators and institutions. Three quarters of submissions suggested they are optimistic about institutional improvement being possible, suggesting that both existing and new models of education are appropriate for consideration. With the decimation of institutional structures during the Covid-19 pandemic, we may see new models emerge sooner rather than later. With a little creativity, we may be skating on a checkerboard as part of a new definition of the classroom.

The Futures of Education initiative can add the rich and storied artwork submissions to their body of knowledge on which they will make their deliberations. The artists have submitted these works with view to looking forward, either with a message of warning or hope, and in some cases a degree of both. We hope to see artists' imagination and creativity feed into the International Commission, for solutions that reflect fertile possibilities, given the capacity and abundance of the human spirit visualised in these artworks.

References

- Beck, U. 2014. Ulrich Beck: Pioneer in Cosmopolitan Sociology and Risk Society. New York: Springer.
- Eliasson, O. 2016. Authors. World Economic Forum, New York, viewed 7 November 2020, <https://www.weforum.org/agenda/2016/01/why-art-has-the-power-to-change-the-world/>
- Norris, J., Bhattacharya, K., and Powell, K. 2019. 'Embodying moral discourses through arts-based methodologies: Poetry, visual arts, movement, sounds, and performance', *Cultural Studies Critical Methodologies* 2020. Vol. 20, no. 1, pp. 3-6.
- Phillips, LC. 2003. 'Nurturing empathy', *Art Education*. Vol. 56, no. 4, pp. 45-50.
- UNESCO, 2020. Your vision of education in 2050. Paris: UNESCO. (Accessed 9 November, 2020) <https://en.unesco.org/futuresofeducation/get-involved/your-vision-education-2050>
- United Nations. 2015. Transforming our world: the 2030 Agenda for Sustainable Development. (Accessed 12 February, 2020) https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

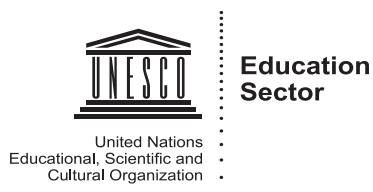
Situating the researchers

'We' the researchers, who also identify as artists, have situated ourselves in relation to the readings to enhance opportunities for greater plurality and nuance. We hope this report will glean the possibilities for the future of education, intersectional across a number of perhaps otherwise unrelated themes.

We work at the nexus of education, art and/or performance, with praxes engaging actors and non-actors in creative processes steering social change. Individually I (Claire) have facilitated and educated actors and students in Australia, Germany, South Africa and the UK and I am currently an early career researcher looking at methodologies for making multilingual performance; while, I (Rachael) have facilitated and educated future teachers and community members in arts education (dance, drama and music) in Australia, India and Ireland, as a mid-career academic with research spanning arts education, artistic practice and creativity. Our perspectives cohere positions interested in facilitating and reading democratic and creative processes that mediate from individuals to institutions, piquing our interest and involvement in this project. The reader should be mindful that our backgrounds, disciplinary lens and ways of influencing one another are persuasive to the outcomes of this report, both in how we constitute meaning in the close qualitative analysis and in our approaches to thematic categorisation.

UNESCO Education Sector

Education is UNESCO's top priority because it is a basic human right and the foundation on which to build peace and drive sustainable development. UNESCO is the United Nations' specialized agency for education and the Education Sector provides global and regional leadership in education, strengthens national education systems and responds to contemporary global challenges through education with a special focus on gender equality and Africa.



Futures of Education: Learning to become

The International Commission on the Futures of Education was established by UNESCO in 2019 to reimagine how knowledge and learning can shape the future of humanity and the planet. The initiative incorporates extensive public and expert engagement and aims to catalyze a global debate on how education needs to be rethought in a world of increasing complexity, uncertainty, and fragility.

Futures of
Education

LEARNING TO BECOME

Stay in touch

✉ futuresofeducation@unesco.org

🌐 <http://unesco.org/futuresofeducation>

🐦 @UNESCO
#FuturesofEducation

📘 @UNESCO

UNESCO Education Sector
Future of Learning and Innovation Team
7, place de Fontenoy
75352 Paris France