

**CARTOONING FOR CLIMATE CHANGE: A PARTICIPATORY PLANNING
FRAMEWORK[SHOP]**

A Professional Report

Presented to the Faculty of the Graduate School

of Cornell University

In Partial Fulfillment for the Degree of

Master of Regional Planning

By

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Abstract

Climate change threatens societies worldwide, necessitating effective communication to raise awareness and engage diverse communities. Planners play a key role by sharing knowledge and learning from and with vulnerable populations affected by climate issues. This report investigates using cartooning as a tool to enhance engagement between planners and communities when language and illiteracy present significant barriers. I analyzed a series of workshops, my friend and RISD alumni Sumanth Krishna and I collaborated on and conducted, called 'Cartooning for Climate,' which used cartoons to communicate climate impacts to young refugee students from Syria currently based in Turkey. The report explores how this participatory frame[workshop] can decode complex climate concepts and foster dialogue, and how using cartoons, planners can reach a wider audience for climate justice actions. Drawing on the workshops and participation principles like Gaventa's Power Cube, this report presents a framework for planners to communicate climate risks to communities and foster inclusive climate action. The report highlights cartooning's potential in climate communication, promoting creative engagement and united responses to the climate crisis, particularly with young people.

Biographical Sketch

Swathi Suvarna holds a Bachelor's Degree in Architecture from SJB School of Architecture and Planning, Bangalore, India (2018), and a Master's Degree in Regional Planning from Cornell University (2023). The world of architecture and planning is cathartic to her for its inherent and all-encompassing multidimensionality ranging from urgent challenges of climate change and environmental sustainability to the most fundamental needs of a shelter. She remains fascinated too, by its unparalleled nature to capture dreams and memories through innovative processes. Despite larger political forces entrenched in planning and development, she strongly believes that collaborative capacity of skilled professionals could address such emerging challenges. Her primary focus lies in environmental and climate change communications, reflecting a profound concern for the shared prosperity of communities and the environment and she is forever envisioning possibilities of equitable futures.

During her time at Cornell University, Swathi served as the President of the International Planning Students Organization and held the distinction of being a Women Leaders in Sustainability Fellow with the Campus Sustainability Office. These roles underscore her active engagement in promoting sustainable practices and advancing the dialogue on global environmental challenges.

Growing up and having deep roots in both the small coastal city of Mangalore and the bustling metropolitan city of Bangalore provided Swathi with a nuanced understanding of different scales of urbanism and their associated challenges. These formative experiences inspire her to address pressing environmental and sustainability concerns within the urban fabric. As an eternal seeker of knowledge, Swathi embodies an unmatched passion for continuous learning. She wholeheartedly embraces her role as a catalyst for positive change, driven by the belief that her contributions can make a meaningful difference.

To all beings on this planet, big or small, we have a shared role in shaping our world for the better.

Acknowledgments

The inception of the 'Cartooning for Climate' workshop series traces back to a pivotal conversation with my friend, Sumanth Krishna, whose unwavering support played a crucial role in its successful implementation. His belief in my vision, coupled with our shared determination, led to the realization of this endeavor in the Summer of 2022. My heartfelt gratitude extends to NuVuX and the Karam Foundation for embracing and endorsing my idea and providing a platform to extend the workshop to their students.

I extend my thanks to the Syrian refugee students from the Karam Foundation, whose engagement with the workshop not only offered me the opportunity to share my knowledge but also enriched my understanding through their powerful and moving stories expressed through cartooning. Witnessing their resilience and courage in the face of early-life adversities left a profound impact, reinforcing my belief in their potential as future leaders.

Special acknowledgment goes to Prof. Pedro X. Molina and Prof. Linda Shi, whose guidance in two pivotal classes shaped the initial ideas behind this workshop. Profound gratitude is also owed to Prof. Neema Kudva and Prof. Sophie Oldfield, my exit project committee, for their instrumental role in refining this report, pushing me to think critically and analytically beyond my initial capabilities.

To my friends at Cornell University and beyond, your countless hours on Zoom calls and in-person meetings provided unwavering support, and I am profoundly grateful for the love and encouragement you bestowed upon me during this journey.

Finally, my deepest appreciation goes to my family, especially my mother, my father, and my sister. Your unwavering support has been the foundation of my journey, and I hope to repay your love and encouragement through my actions, demonstrating my commitment to paying it forward. I am here today because of you, and words cannot adequately express my gratitude.

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List of Abbreviations

COP - Conference of the Parties

IPCC - Intergovernmental Panel on Climate Change

NOAA - National Oceanic and Atmospheric Administration

UNFCCC - United Nations Framework Convention on Climate Change

Overview

With climate change looming as a threat to society, how can planners talk about it in effective ways with different communities around the world?

The emergencies of climate change and awareness can be imparted through many creative strategies. Planners have a responsibility to not just educate but also learn from vulnerable communities who are continually exposed, to understand the impacts of climate issues. This professional report is a reflection piece that draws on previously conducted workshops titled ‘Cartooning for Climate’ as well as a framework for participatory planning processes using cartooning as a teaching pedagogical tool to help planners better engage with communities, especially populations that are hard to reach for myriad reasons such as language barriers and/or illiteracy. Cartooning as a method of communication in classroom settings has been an effective tool in capturing the attention of the people for at least a century (Smith et al., 2019). The workshop framework shows us how to decode complex issues and concepts of climate risks and uncertainty. While reports and scientific articles are important within the policy, research, and corporate setups, it remains inaccessible to the common masses. A cartoon, however, elicits a response: a smirk, a laugh, a dialogue between individuals who might not necessarily be equipped with the ability to read but might snicker at a cartoon.

...as a lot of climate science is restricted to journals which are not easily accessible, Chakravarty aims to make it reach those who matter—today’s climate-affected common man. – Rohan Chakravarty, Indian Cartoonist (Sariya et al., 2023)

This attempt to address climate concerns through an alternative medium is to reach a wider audience because climate justice actions need strength in numbers. Cartooning can thus be used as an alternative method of communication to discuss complex issues because they directly engage the audience in creative ways.

Our concern is simple: most people in the world remain disengaged, and we need a way forward that engages the majority of humanity... We have a common interest, and that interest can only be served when we come together (Hawken, 2021).

WHAT CLIMATE CHANGE MEANS TO DIFFERENT PEOPLE

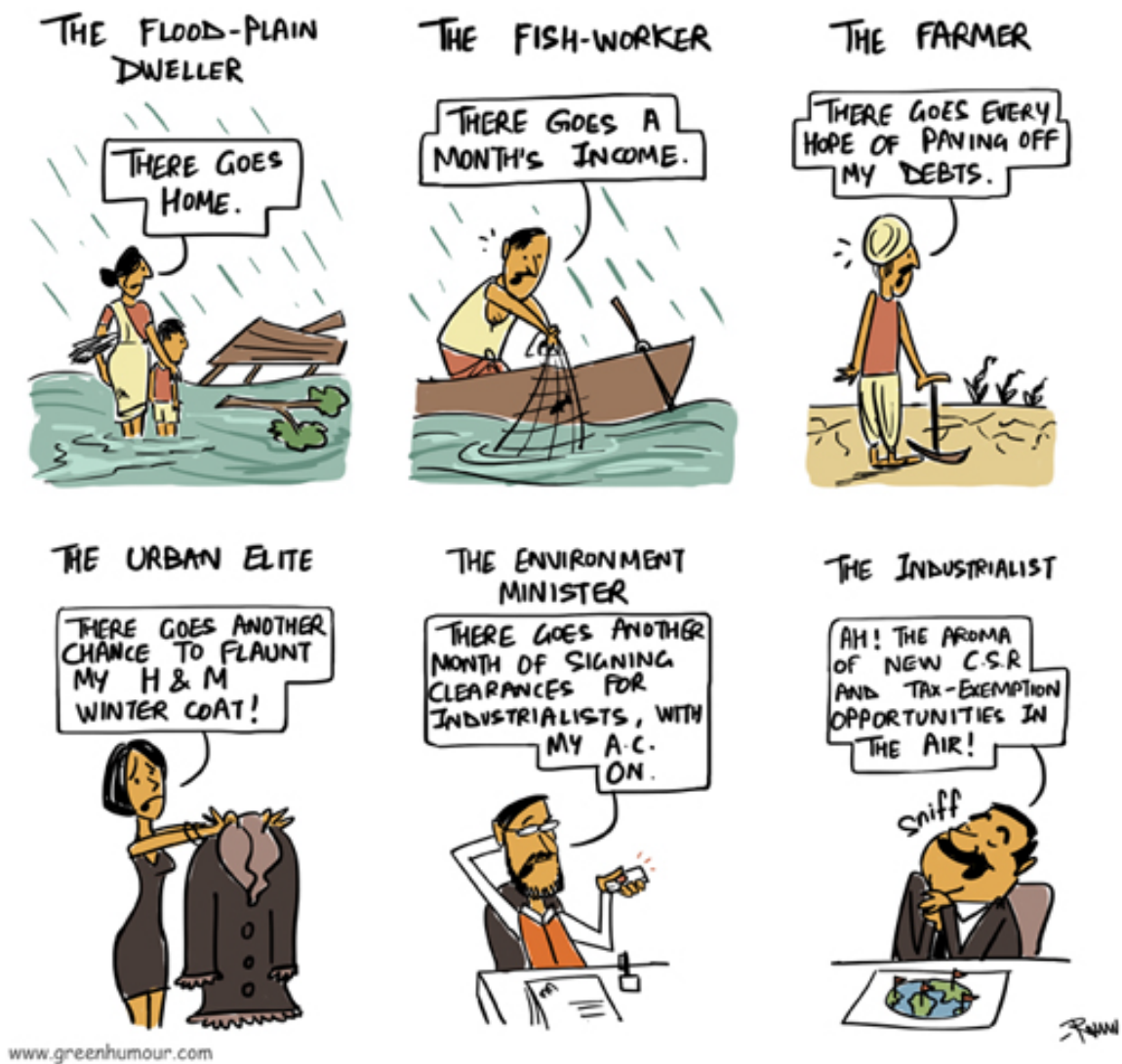


Figure 1. For 'climate change and people': Rohan Chakravarty, 'Pugmarks and Carbon Footprints' (Penguin India), www.greenhumour.com

Chapter 1: Introduction

1.1 Topic Selection

The genesis of this report lies in transformative educational experiences during my second semester, where I had the privilege of enrolling in two enlightening courses. The first, led by Professor Pedro X. Molina, a distinguished Nicaraguan political cartoonist currently in exile, bore the intriguing title, 'Cartooning as a Social Commentary.' This course not only acquainted me with the rich history of cartooning but also exposed me to diverse manifestations of political and editorial cartoons and introduced me to accomplished cartoonists from around the globe.

Simultaneously, I was enrolled in another intellectually stimulating course, 'Urban Adaptation to Climate Change,' led by Professor Linda Shi. This interdisciplinary exploration into the interface of urban environments and climate change resonated deeply with me, igniting my curiosity about the potential role of cartoons in addressing climate-related issues.

Inspired by the fusion of these two educational experiences, I began to contemplate the possibility of employing cartoons as a medium for climate change advocacy. To bring this vision to life, I collaborated with Sumanth Krishna, a dear friend, an alumnus of the Rhode Island School of Design (RISD), and a former NuVuX Fellow at Woodstock Union High School and Middle School in Vermont. NuVuX, an initiative by NuVu, seeks to infuse design, creativity, and innovation into K-12 educational institutions and various organizations globally.

Together, Sumanth and I conceptualized and crafted a series of workshops entitled 'Cartooning for Climate.' Leveraging Sumanth's connections within the NuVuX network, we approached the Karam Foundation, a community-driven non-profit organization dedicated to empowering Syrian refugees, particularly those affected by the Syrian Civil War. Our proposal for hosting these workshops for Syrian refugee students in Istanbul, Turkey, piqued the interest of the Karam Foundation.

The inaugural workshop, curated by Sumanth and me, transcended geographical barriers as we organized and hosted it over the virtual realm. This workshop took place in May 2022, bringing together participants from diverse locations: Sumanth from Vermont, Dina Chehab, another NuVuX Fellow from Paris, the students, and facilitators from the Karam Foundation based in Istanbul, and myself from Ithaca.

The success of our first workshop led to the Karam Foundation commissioning a follow-up session, scheduled for August 2022. Our overarching goal in orchestrating these workshops was to stimulate thought-provoking dialogues and conversations regarding climate change within the unique contexts in which these communities had lived.

In summary, this report stems from the confluence of my academic pursuits, which began with the exploration of the productive fusion between cartooning and climate change and culminated in a collaborative effort to engage Syrian refugee students in critical conversations through the 'Cartooning for Climate' workshops. The research that informs this report endeavors to delve into the impact and implications of employing cartoons as a vehicle for climate change communication within vulnerable communities, which includes critically examining power dynamics inherent in workshop and learning settings through the lens of participatory planning principles.

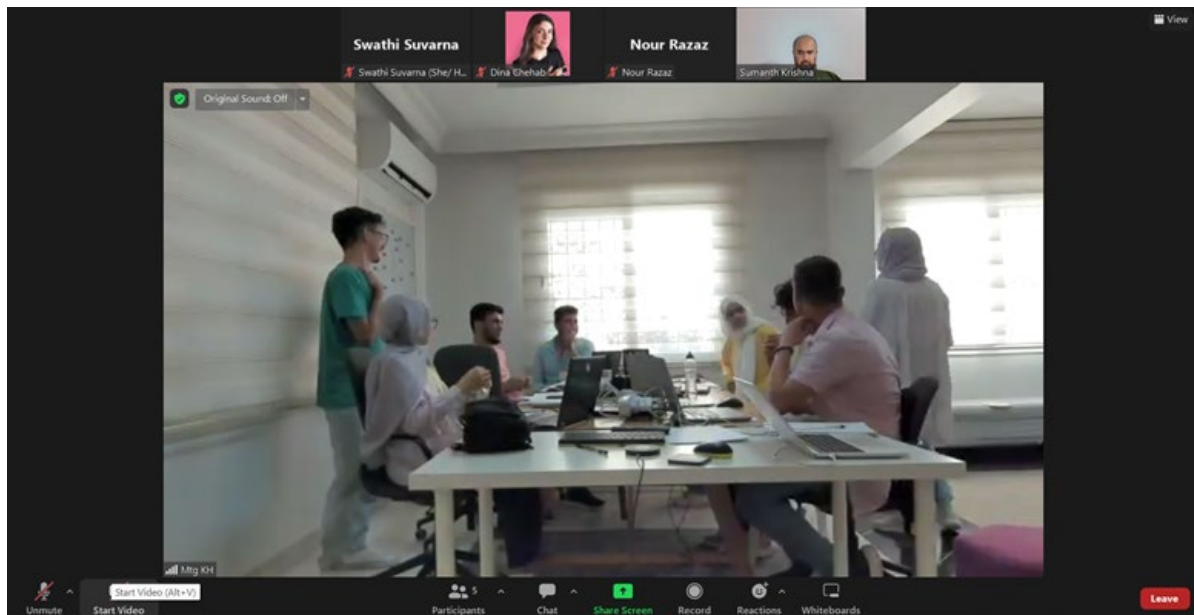


Figure 2. Screenshot of Virtual Workshop | Source: Authors own (August 2022)

1.2 Dealing With The Uncertainties Of Climate Change With Populations That Are Traditionally Hard To Reach And In Politically Fraught Situations – Why Syria?

Little research has been done previously on climate change adaptation for communities under conflict.

Even among the conflict-affected countries selected, we find disparity, with several countries being the focus of substantial research and funding, and others seeing little to none... Results indicate that people in conflict-affected contexts are adapting to climate change, but there is a pressing need for diverse scholarship across various sectors that documents a broader range of adaptation types and their results (Sitati et al. 2021).

A critical step in helping the most vulnerable adapt to climate change is to understand the specific impacts that they face in each city.

The social unrest and conflict in Syria are a long-drawn battle that has been on-going for decades now. While the political scenario has been a crucial factor in displacing Syrians out of the region resulting in the refugee crisis, it is not the only factor for their displacement. From

2006-2011, Syria faced a severe drought, with up to 60% of its land affected, causing the worst crop failures in the region's history. Vulnerable Syrians, especially in the northeast, experienced significant agricultural losses, with 75% facing total crop failure and herders losing 85% of their livestock. The human and economic toll was substantial, with over 800,000 losing their livelihoods by 2009. By 2011, around one million Syrians were "food insecure," and two to three million fell into extreme poverty. This crisis triggered a mass migration of farmers and herders to cities, aggravating existing challenges in urban areas already strained by previous waves of refugees (Gleick, 2014).

The collapse of Syria's farmland stems from a complex mix of factors, including climate change, natural resource mismanagement, and demographic shifts. A NOAA study links the prolonged drought in the region to climate change, projecting significant crop yield declines in Syria if current greenhouse gas emissions persist. The al-Assad regime's poor governance exacerbated the problem, combining mismanagement and neglect of natural resources. Government subsidies for water-intensive farming and inefficient irrigation worsened water shortages and desertification. Over-grazing and a growing population further contributed to land degradation, forcing farmers and herders to migrate, face starvation, or demand change (Gleick, 2014).

While the report does not go into further details of the Syrian climate crisis it is important to note that over the course of the long run, it is crucial to tackle the comprehensive range of societal, environmental, and climatic challenges in Syria. This is essential to foster a resilient, free, and conflict-resistant nation, capable of constructive engagement within the international community.

Another inspiration for this workshop was the Syrian activist Diala Brisly. I stumbled upon her works during my research and her illustration style caught our attention. There is something so

soft and soothing about it even though the themes she portrays are deeply saddening and one depicting the trauma of the Syrian people, especially children. Diala chooses to put her hope for the future of Syria and the kids into her illustrations. That is her way of facing tragedy in a different way she says in an interview with BBC.

1.3 Road Map to the Report

Following this introduction, the subsequent sections of this report encompass the comprehensive content and materials designed for the execution of the workshop, serving as a prototype for workshop facilitation. The workshop materials section is succeeded by a reflective analysis in an interview format, jointly undertaken by the facilitators, namely Sumanth and me, in the aftermath of the two workshop sessions. This introspective evaluation lays the foundation for the strategic enhancements we plan to implement in our future workshops.

Chapter 2: Workshops (May, August 2022)

2.1 Description

Participants will learn to define and outline information, ideas, and principles of climate change. We will together identify and articulate ongoing issues/conflicts around the climate crisis which will be a crucial component of the workshop. Participants will then come up with illustrations and comics to communicate about climate-related issues. We will then have discussions around methods of communication that we will synthesize to create the catalog. The takeaway for the participants is that they are now equipped with alternative ways of engaging with larger communities of people wherever they go.

The result of the workshop series would be a co-authored manual or “Catalogue of Climate Conversations: A living catalog of cartoons done during the Cartooning for Climate Change Workshop series from around the world” that provide multiple perspectives and frameworks for participants to continue to engage in meaningful dialogue around climate change with many other demographics of people.

Cartooning for Climate is a fun interactive one-day workshop designed for students to craft their own cartoon comics! Through discussions, storyboards, and narrative-based exercises, students will be introduced to famous cartoonists, and the history of cartoons while looking at precedents around climate and its disproportionate effect on different communities. The goal would be to create a comic strip around climate justice to narrate the state of the world while exploring comical styles and aesthetics.



CARTOONING FOR CLIMATE

A Short & Exciting Workshop!
Location: Zoom
Date: 14th May 2022 at 2:00 pm

By **Swathi Suvarna** in collaboration with **Karam House**

SIGN UP TODAY!



Duration: 3-4 hours - English Speaker with Arabic translation, and content in both Arabic and English.

Cartooning for Climate is a fun interactive one-day workshop designed for students to craft their own cartoon comics!

Through discussions, storyboards, and narrative-based exercises, students will be introduced to famous cartoonists, and the history of cartoons while looking at precedents around climate and its disproportionate effect on different communities.

The goal would be to create a comic strip around climate justice to narrate the state of the world while exploring comical styles and aesthetics.

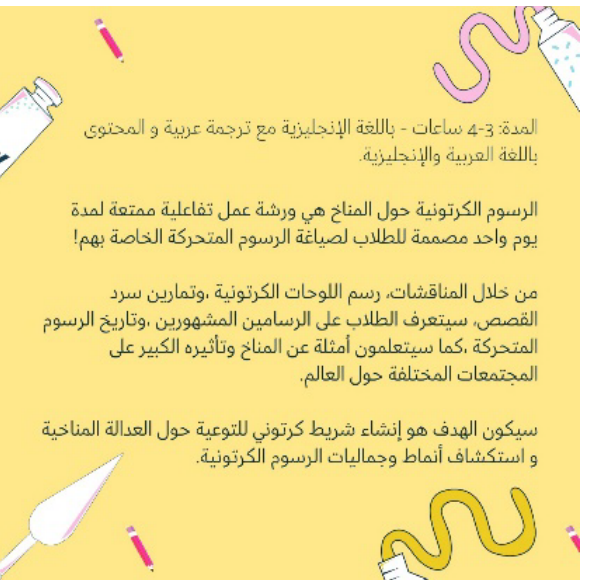


الرسوم الكرتونية حول المناخ

ورشة عمل
الموقع: الإنترنت عبر "زووم"
التاريخ: 14 مايو 2022 - الساعة 2 بعد الظهر

By **Swathi Suvarna**
بالتعاون مع بيت كرم

سجل الآن



المدة: 3-4 ساعات - باللغة الإنجليزية مع ترجمة عربية و المحتوى باللغة العربية والإنجليزية.

الرسوم الكرتونية حول المناخ هي ورشة عمل تفاعلية ممتعة لمدة يوم واحد مصممة للطلاب لصياغة الرسوم المتحركة الخاصة بهم!

من خلال المناقشات، رسم اللوحات الكرتونية، وتمارين سرد القصص، سيتعرف الطلاب على الرسامين المشهورين، وتاريخ الرسوم المتحركة، كما سيتعلمون أمثلة عن المناخ وتأثيره الكبير على المجتمعات المختلفة حول العالم.

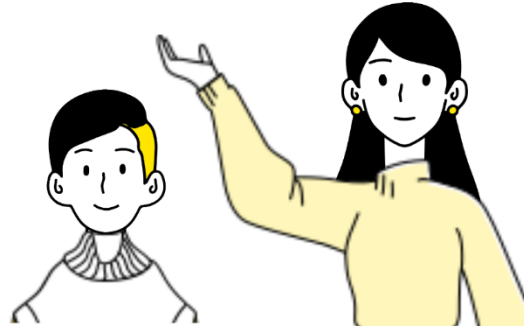
سيكون الهدف هو إنشاء شريط كرتوني للتوعية حول العدالة المناخية و استكشاف أنماط وجماليات الرسوم الكرتونية.

Figures 3-6. Workshop Posters used for advertisement (In English and Arabic)

2.2 Materials

Cartooning for Climate

A Workshop with Karam House



الرسوم الكرتونية حول المناخ

ورشة عمل مع بيت كرم

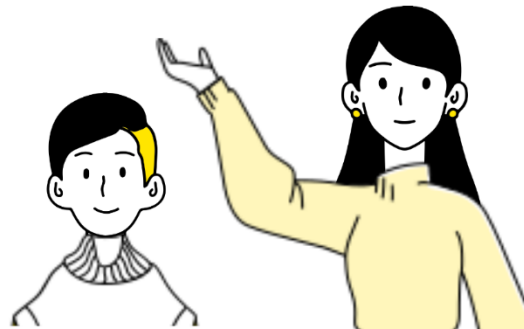


Figure 7. Presentation Slide 1

Introduction

Swathi will be the facilitator for today's session. With the support of our Karam house mentor, NuVu fellows Dina and Sumanth

Hello!

My name is Swathi Suvarna. I'm a first-year Masters in City and Regional Planning student at Cornell University in Ithaca, New York. I'm originally from India, born in Mangalore (with an 'M'), a coastal town on the west coast but lived pretty much my whole life in Bangalore (with a B) the capital city of Karnataka. I did my undergraduate degree in architecture and practiced for 3 years in India between 2018 to 2021 before moving to the US for my higher education.

Hobbies: I love reading, and writing the occasional poem but what I love the most is dancing!

Fun fact about me: I'm a mother of 4 guinea pigs!



Swathi
Suvarna



Swathi
Suvarna

مقدمة

سوف تكون Swathi المشرفة لجلسة اليوم بدعم من فريق بيت كرم.

مرحبًا!

اسمي Swathi Suvarna. أنا طالبة ماجستير في السنة الأولى في تخطيط المدن والتخطيط الإقليمي في جامعة كورنيل في إيثاكا ، نيويورك. أنا أصلاً من الهند ، ولدت في مانجالور (بحرف "M") ، وهي بلدة ساحلية على الساحل الغربي ، لكنني عشت إلى حد كبير طوال حياتي في بنغالور (مع حرف ب) عاصمة ولاية كارناتاكا. لقد حصلت على شهادتي الجامعية في الهندسة المعمارية ومارستها لمدة 3 سنوات في الهند بين 2018 و 2021 قبل الانتقال إلى الولايات المتحدة للحصول على تعليمي العالي.

الهوايات: أحب القراءة وكتابة القصيدة الموسمية ولكن أكثر ما أحبه هو الرقص!

حقيقة ممتعة عني: أنا أم لأربعة خنازير غينيا!

Figure 8. Presentation Slide 2

Student Check-in

Step 1: Pick your favorite season from the options below

الخطوة 1: اختر الموسم المفضل لديك



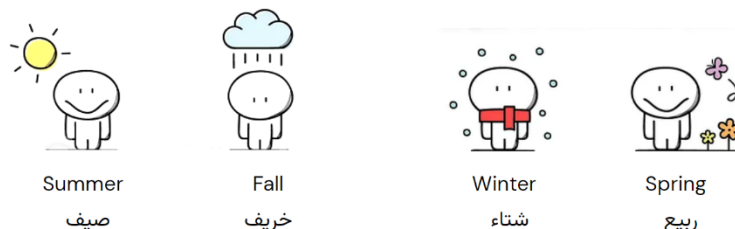
Time: 5 minutes
الوقت: 5 دقائق

Figure 9. Presentation Slide 3 | Student Check-in to get acquainted with one another

Student Check-in

Step 1: Pick your favorite season from the options below

الخطوة 1: اختر الموسم المفضل لديك



Time: 5 minutes
الوقت: 5 دقائق

Step 2: Choose and draw an Emoji that best represent your mood in the season you picked

الخطوة 2: اختر وارسم رمزاً تعبيرياً يمثل أفضل مزاجك في الموسم الذي اخترته

Figure 10. Presentation Slide 4 | Student Check-in to see how everyone is feeling

Climate & Conflict: A Cartooning Commentary for Children to Communicate



Hani Abbas

Reading the global news today with respect to climate change concerns and climate scientists' warnings feels more urgent than ever.

As someone who is keen on studying the past, observing the present, and trying to foresee what the future looks like for this research aims to visualize what climate change looks like for people from around the world.

المناخ والصراع: مناقشة مكتوبة كرتونية للأطفال



Hani Abbas

أصبحت قراءة الأخبار العالمية اليوم تركز على المخاوف تغير المناخ والعلماء ينبهون أكثر من أي وقت مضى.

بعد دراسة الماضي ، ومراقبة الحاضر ، ومحاولة توقع المستقبل ، تهدف ورشة العمل هذه إلى تصور عن كيف يبدو تغير المناخ للأشخاص من جميع أنحاء العالم.

Figure 11. Presentation Slide 5 | Workshop Introduction

Icebreaker

Before we start with the session,
let's warm up a little with this round:



Questions:

What's your favorite Cartoon/Fictional character?

ما هي الشخصية الكرتونية / الخيالية المفضلة لديك؟

Name the character

اسم الشخصية.

Let us think about a scene from the cartoon.

دعونا نفكر عن مشهد من الرسوم المتحركة

Lets work as a group on jamboard/A4 to create a scene

لإنشاء مشهد Jamboard A4 / سنعمل كمجموعة على

You can either add objects or characters to the box

يمكنك إما إضافة كائنات أو أشخاص إلى المربع

Time: 10 minutes

الوقت: 10 دقائق

Figure 12. Presentation Slide 6 | Icebreaker round 1 to set the tone and get students acclimatized to a climate change workshop while also making it a fun experience

Icebreaker

Before we start with the session,
let's warm up a little with this round:



ONSITE – Karam house Studios



[LINK](#) رابط

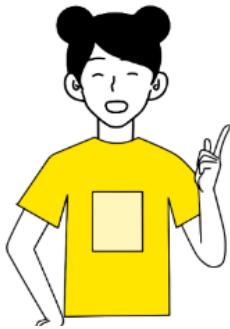
Time: 10 minutes

الوقت: 10 دقائق

Figure 13. Presentation Slide 7 | Icebreaker round 2 using a jam board to create a group cartoon

Congratulations!!

You have all made a cartoon together as a group!!



Hurray!!

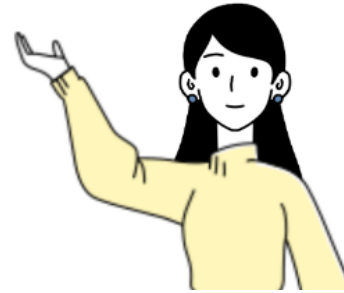


Figure 14. Presentation Slide 8 | Congratulatory and reassuring messages

Let's get started!

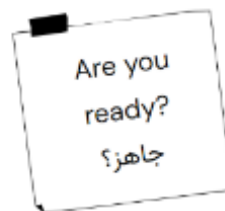


Figure 15. Presentation Slide 9 | Getting Started



Let us start with some eyes!

سنبدأ برسم العيون

Draw basic shapes first, **Circles**, **Triangles**, **Squares**!

ارسم الأشكال الأساسية أولاً ، **الدوائر** ، **المثلثات** ، **المربعات**

Then add detail like eyebrows and glasses

ثم أضف التفاصيل مثل الحواجب والنظارات



Let us start with some eyes!

Draw basic shapes first, **Circles**, **Triangles**, **Squares**!



Then add detail like eyebrows and glasses



Figure 16. Presentation Slide 10 | Starting with basics of drawing cartoons – Characters using basic shapes – Eyes



Next, we will work on Noses.

سنعمل على أنوف

Think about **Animal** noses!

!فكر في أنوف الحيوانات



Next, we will work on Noses.

Think about **Animal** noses!



Figure 17. Presentation Slide 11 | Starting with basics of drawing cartoons – Characters using basic shapes – Nose



Next, we will work on mouths.

سنعمل على الفم

Think about **Tongue**, **Lips**, & **Teeth**!

اللسان والشفيتين والأسنان

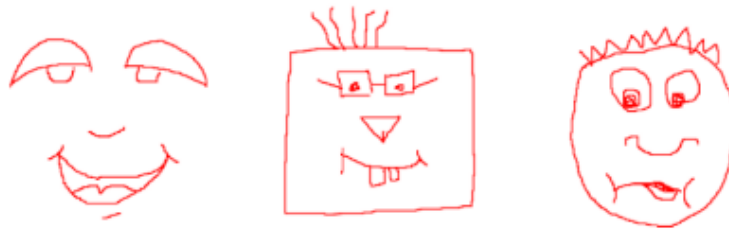


Next, we will work on mouths.

Think about **Tongue**, **Lips**, & **Teeth**!

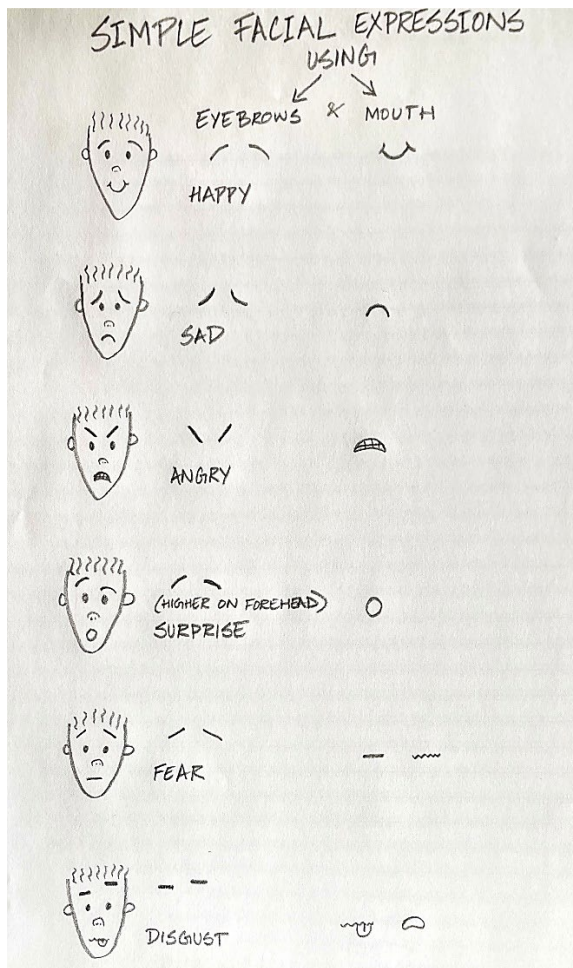


Figure 18. Presentation Slide 12 | Starting with basics of drawing cartoons – Characters using basic shapes – Mouth



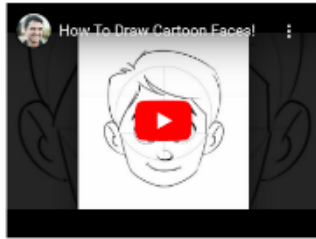
Share your character sketches! شارك اسكتشات شخصيتك

Figure 19. Presentation Slide 13 | Starting with basics of drawing cartoons – Sharing the characters drawn using basic shapes with one another



Simple facial expressions using just the eyebrows
 تعابير الوجه البسيطة باستخدام الحاجبين فقط

Figure 20. Presentation Slide 14 | Starting with basics of drawing cartoons – Simple expressions using various facial features and eyebrows



Pick one of the characters that we will now further develop using different emotions.
 اختر واحدة من الشخصيات التي سنطورها الآن باستخدام مشاعر مختلفة.

Figure 21. Presentation Slide 15 | Guessing the various feelings and emotions of the character

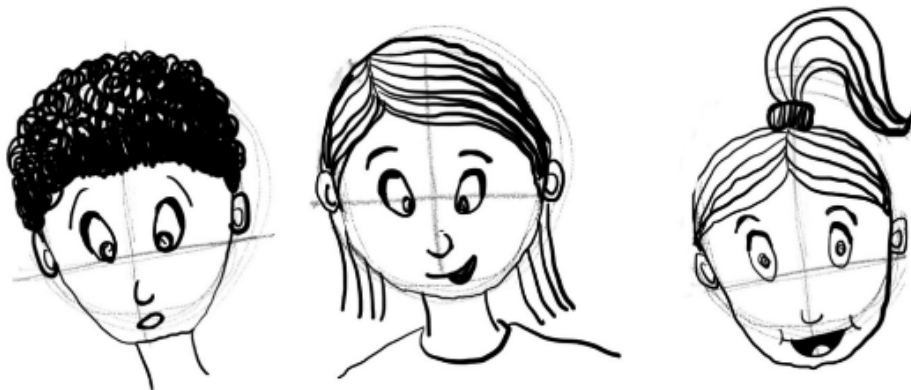
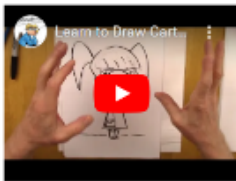
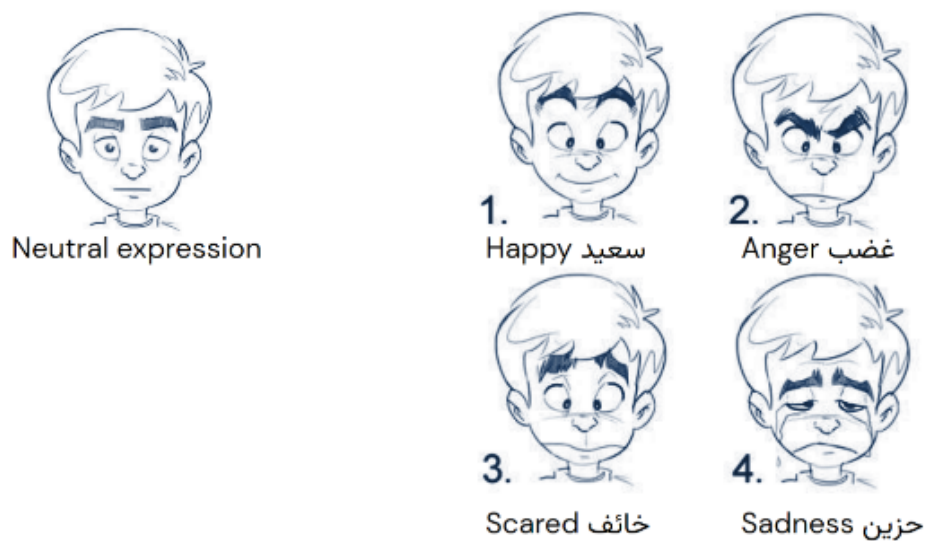


Figure 22. Presentation Slide 16 | Sharing author's own cartoons



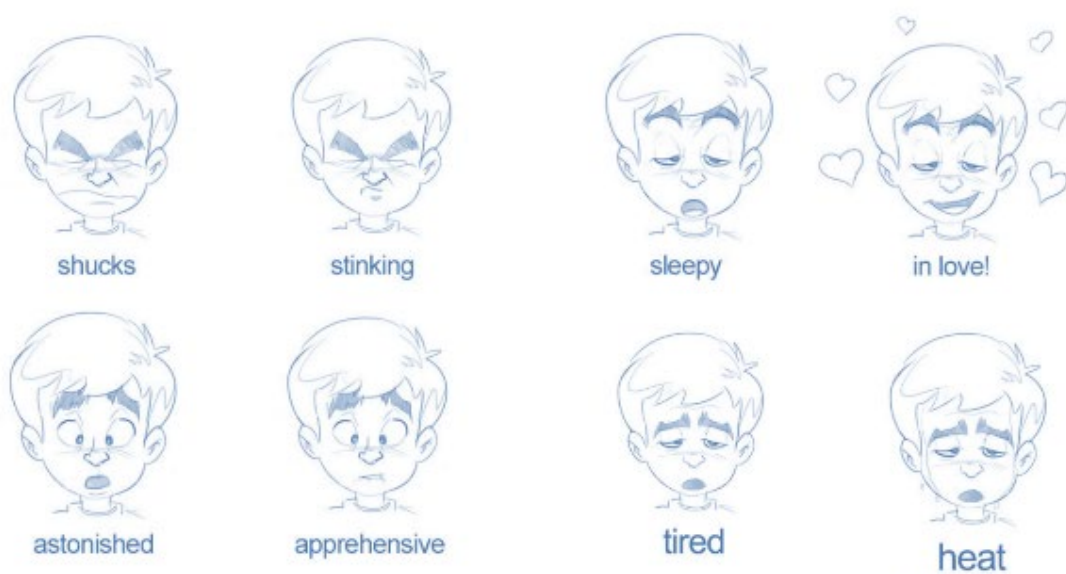
Pick one of the characters that we will now further develop using different emotions.

Figure 23. Presentation Slide 17 | Exploring indications of various feelings and emotions



Pick one of the characters that we will now further develop using different emotions.

Figure 24. Presentation Slide 18 | Exploring indications of various feelings and emotions (contd.)



Pick one of the characters that we will now further develop using different emotions.

Figure 25. Presentation Slide 19 | Exploring indications of various feelings and emotions (contd.)



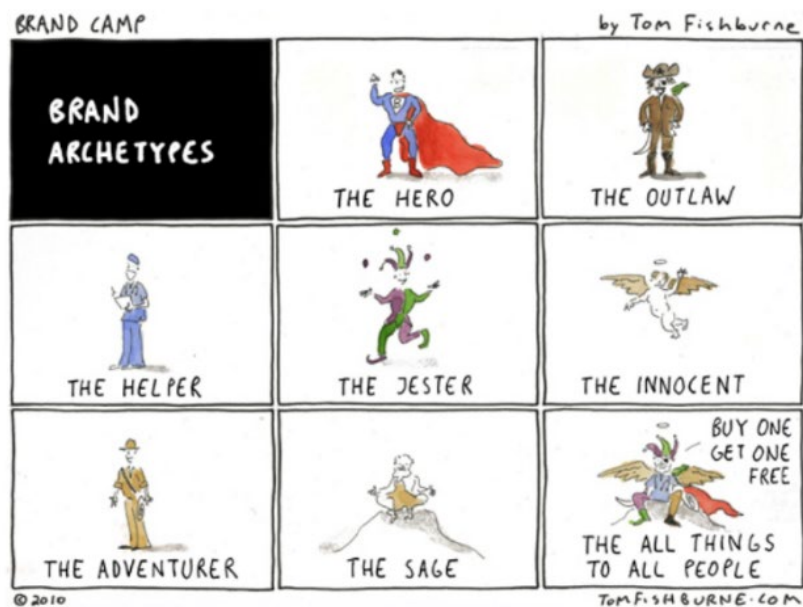
Give these cartoons some more features. أضيف إليها بعض ملامح

Figure 26. Presentation Slide 20 | Giving the facial expression a body using basic shapes



Give these cartoons some more features.

Figure 27. Presentation Slide 21 | Adding more details to the body



Hero - Villain - Archetypes - Roles
 البطل - الشرير - النماذج البدئية - الأدوار

Figure 28. Presentation Slide 22 | Introducing the Hero – Villain – Archetype roles

Precedents

Precedent: an earlier event or action that is regarded as an example or guide

Figure 29. Presentation Slide 23 | Meaning of precedent

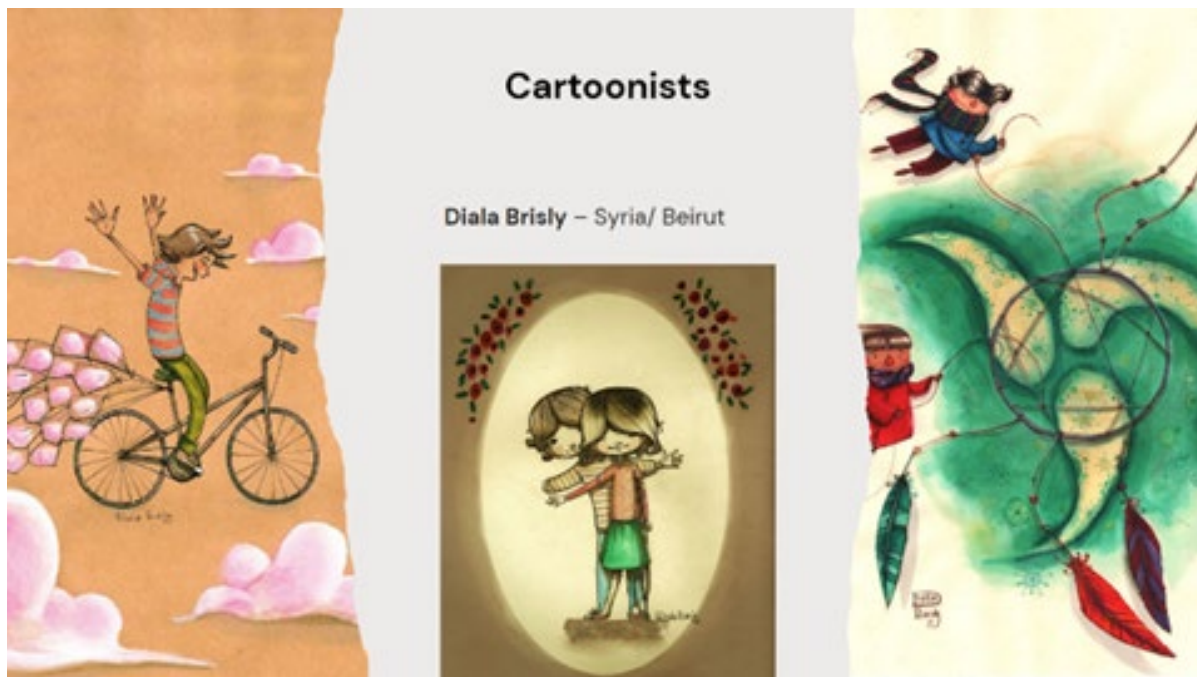


Figure 30. Presentation Slide 24 | Precedents of cartoons and cartoonists from Syria – Cartoons by Diala Brisly

Cartoonists



HOSSAM AL SAADI – Syrie/Syria



FadiToOn (Fadi Abou Hassan) - Norway/Syria/Palestine



Figure 31. Presentation Slide 25 | Precedents of cartoons and cartoonists from Syria – Cartoons by Hossam Al Saadi and FadiToOn (Fadi Abou Hassan)

Cartoonists



Greg Perry – Canada



Signe Wilkinson – USA

Q: What are they trying to show us? ما الذي يحاولون إظهاره لنا؟

Figure 32. Presentation Slide 26 | Understanding what climate cartoons are portraying through the visuals – Cartoons by Greg Perry and Signe Wilkinson

Cartoonists



Earth day 2022 Comics
يوم الأرض 2022 الرسوم الكرتونية

Q: What is the topic/setting of these comics?

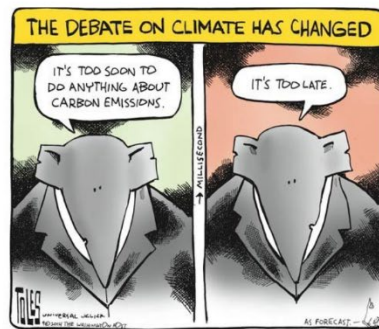
ما هو موضوع هذه القصص المصورة؟

Figure 33. Presentation Slide 27 | Understanding what climate cartoons are portraying through the visuals – topics, settings



Herblock – USA

Cartoonists



Tom Toles – USA



Emma Cook – UK

Q: What is the topic/setting of these comics?

ما هو موضوع هذه القصص المصورة؟

Figure 34. Presentation Slide 28 | Understanding what climate cartoons are portraying through the visuals – topics, settings, main character/s

Cartoonists



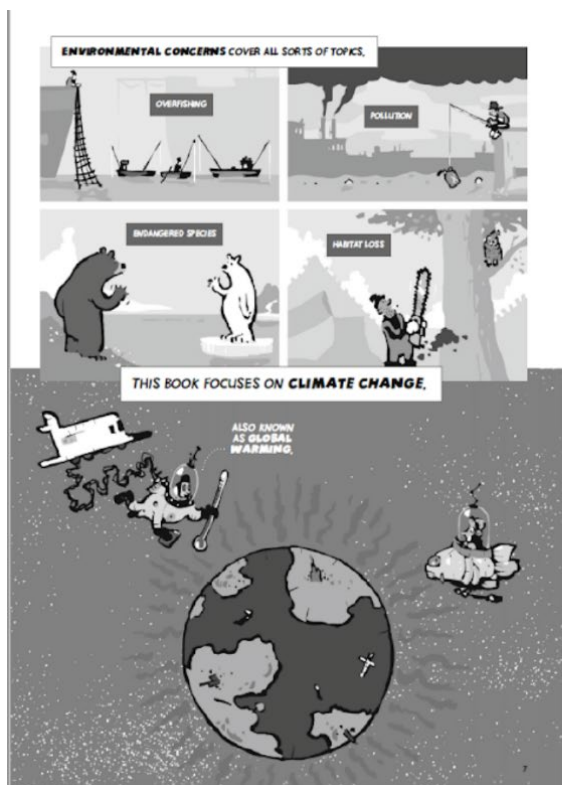
Kaamran Hafeez – USA



Bkorkman – Australia

Q: Who is the main character in the comic? من هي الشخصية الرئيسية?

Figure 35. Presentation Slide 29 | Understanding what climate cartoons are portraying through the visuals – topics, settings, main character/s



Screenshots from a book called *The Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman

Figure 36. Presentation Slide 30 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 1: Introduction, 2014, p. 7)

Source: From *Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.



Figure 37. Presentation Slide 31 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 1: Introduction, 2014, p. 10)

Source: *From Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.



Figure 38. Presentation Slide 32 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 1: Introduction, 2014, p. 12)

Source: From *Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.



Figure 39. Presentation Slide 33 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 16: The Challenge, 2014, p. 184)
Source: *From Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.

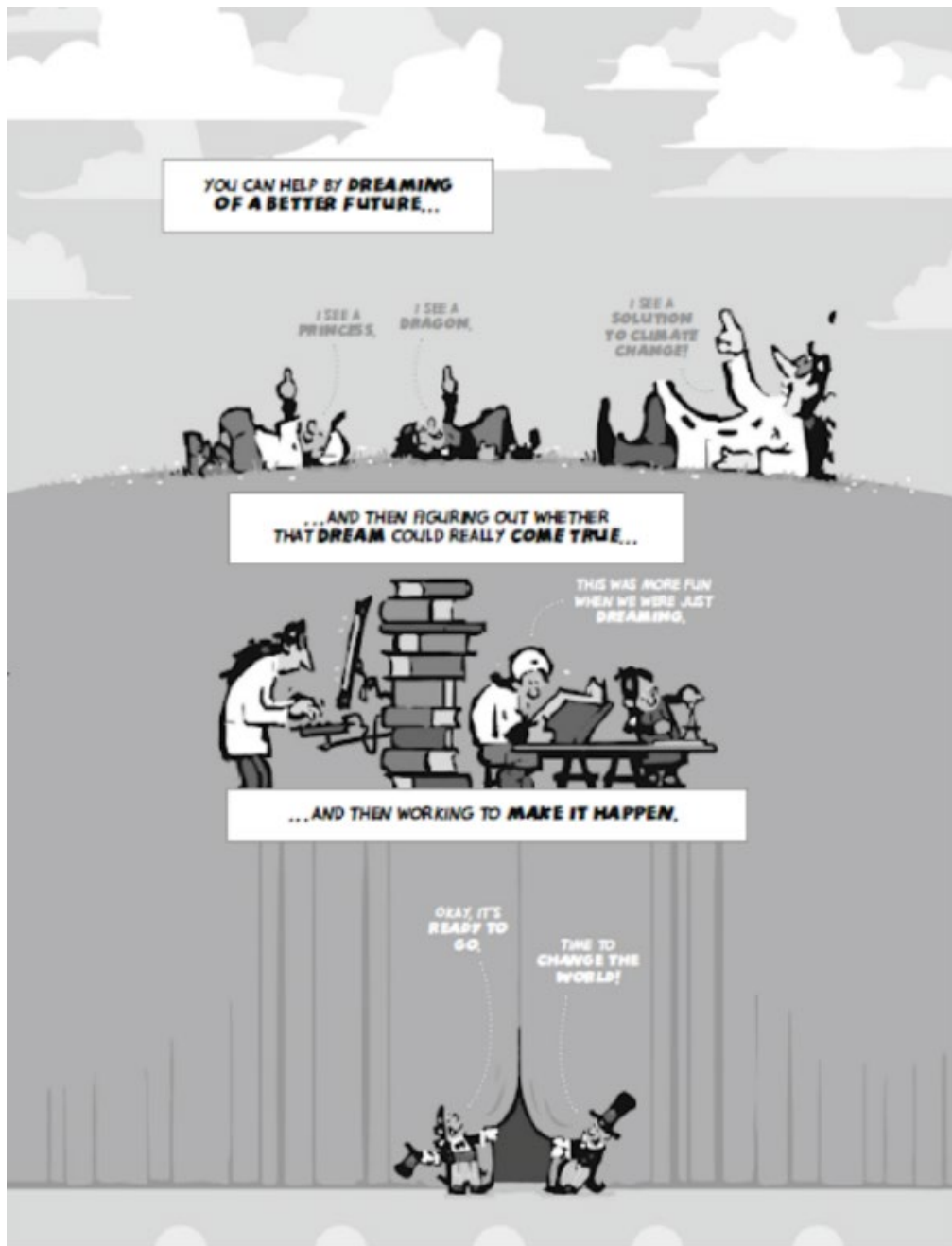


Figure 40. Presentation Slide 34 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 16: The Challenge, 2014, p. 192)

Source: *From Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.



Figure 41. Presentation Slide 35 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 16: The Challenge, 2014, p. 195)

Source: *From Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.



Figure 42. Presentation Slide 36 | Introduction to what climate change means and why it is important – (Klein et al., Chapter 16: The Challenge, 2014, p. 196)

Source: *From Cartoon Introduction To Climate Change* by Grady Klein and Yoram Bauman. Text Copyright © 2014 by Yoram Bauman / Artwork copyright © 2014 by Grady Klein. Reproduced by permission of Island Press, Washington, DC.

Brainstorming

العصف الذهني

1	Define the topic of the comic. ابحث عن موضوع للرسومات	3	Add characters أضف الشخصيات	5	Draw the scenes of the storyboard. ارسم ستريبورد
2	Brainstorm ideas we want to execute. تبادل الأفكار التي نريد تنفيذها	4	Identify the timeline. تحديد الجدول الزمني	6	Proofread and feedback.

Figure 43. Presentation Slide 37 | Drawing their own Cartoon Comic panel – Brainstorming session

Example


Example (Start simple)

Theme : Save Trees

Setting : A forest of paper trees

Characters : Origami folded paper bunnies, tree, truck

Message : Use less Paper, Save Trees. Create a story where bunnies use a tree as their home until a logging truck comes and cuts down the tree. After a season the tree will grow back, and the bunnies return. This shows that if we use less paper, nature will regrow and return.



Name of Character:

Insert short description of character here. Personality, fashion, role in the story and etc.

Voice Actor/Actress:

Thompson

مثال

الموضوع: حفظ الأشجار
المكان: غابة من الأشجار الورقية
الشخصيات: أرانب ورقية ، شجرة ، شاحنة
الرسالة: استخدم كمية أقل من الورق ، واحفظ الأشجار. قم بإنشاء قصة حيث تستخدم الأرانب شجرة كمزل لها حتى تأتي شاحنة قطع الأشجار وتقطع الشجرة. بعد موسم تنمو الشجرة من جديد وتعود الأرانب. هذا يدل على أننا إذا استخدمنا كمية أقل من الورق ، فإن الطبيعة ستعود وتعود.



اسم الشخصية:

أدخل وصف الشخصية هنا. شخصيته ، ملابسه ، دوره في القصة

الممثل / الممثلة الصوتية:

Thompson

Figure 44. Presentation Slide 38 | Drawing their own Cartoon Comic panel – Example board



Figure 45. Presentation Slide 39 | Step 1: Define the topic of the comic



Step 2:
Brainstorm ideas
we want to
execute.

الخطوة 2
العصف الذهني الأفكار التي نريد
تنفيذها

Who is your audience?
من هو جمهورك؟

What do we want our
viewers to see?
ماذا تريد أن يرى
المشاهد؟

Where does this
happen?
أين يحدث هذا الحدث؟


What is the feeling a viewer
should feel when they read or
watch our project? ما
هو الشعور الذي يجب أن يشعر به
المشاهد عند قراءة مشروعنا أو
مشاهدته؟

Time: 10 minutes
الدقائق 10

Figure 46. Presentation Slide 40 | Step 2: Brainstorm ideas we want to execute

Step 3: Add characters الخطوة 3: أضف الأشخاص


What are character notes, props, and other technical aspects we need to consider once we execute the ideas in our storyboard?



Sandy
Geometry
Dingo (Australia)
Female
Strong cultural
identity, free spirit

Name of Character:
Insert short description of
character here. Personality,
fashion, role in the story
and etc.

Voice Actor/Actress:
Sandy



Kodi
Guide
Bear (North America)
Female
Enthusiastic,
optimistic, fair

Name of Character:
Insert short description of
character here. Personality,
fashion, role in the story
and etc.

Voice Actor/Actress:
Kodi

Time: 10 minutes

Figure 47. Presentation Slide 41 | Step 3: Add characters

Step 4: Timeline

الخطوة 4: الجدول الزمني

When will we work on this? How much time do we need to execute this?

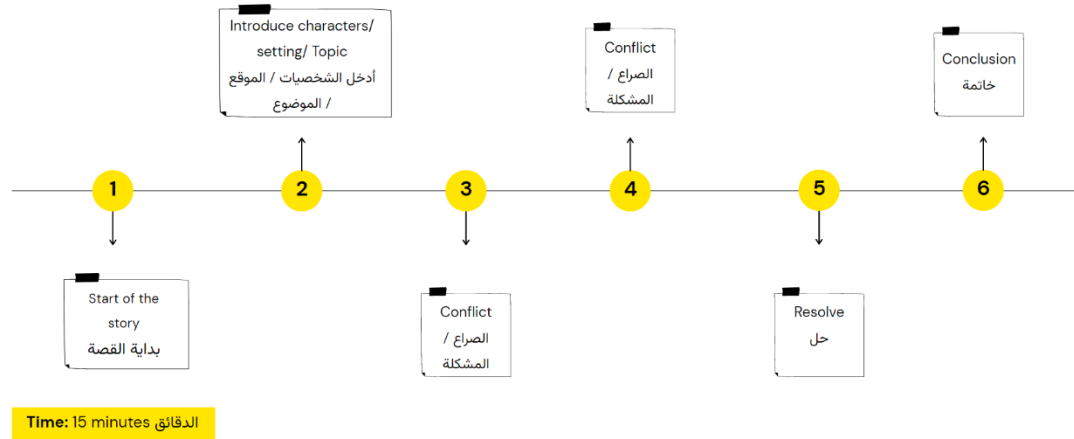


Figure 48. Presentation Slide 42 | Step 4: Identify the timeline

Step 4: Timeline

Let us break this cartoons timeline together as a group

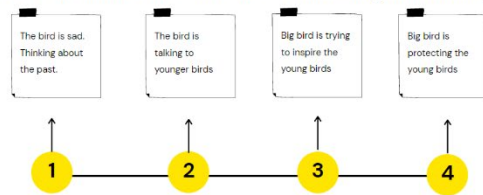


Figure 49. Presentation Slide 43 | Step 4: Identify the timeline with an example (www.birdandmoon.com)

Timeline

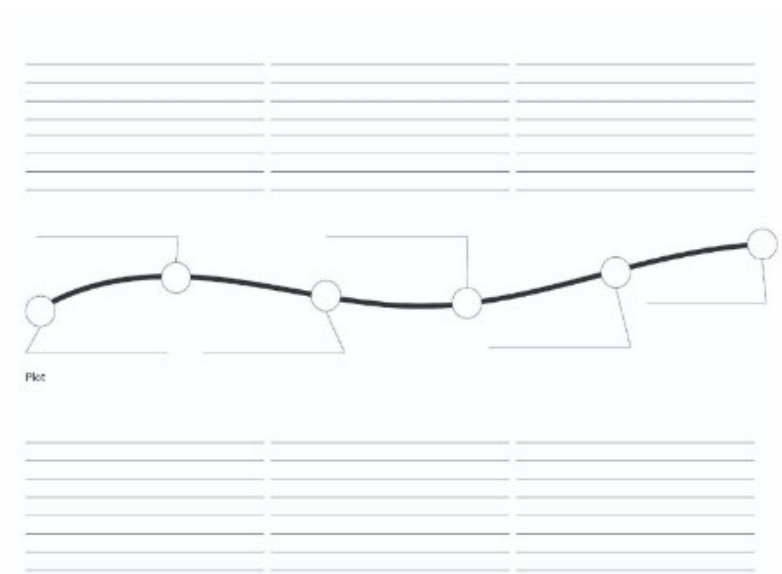


Figure 50. Presentation Slide 44 | Step 4: Timeline graphic sample

Step 4: Timeline

خطوة 4: الجدول الزمني

When will we work on this? How much time do we need to execute this?

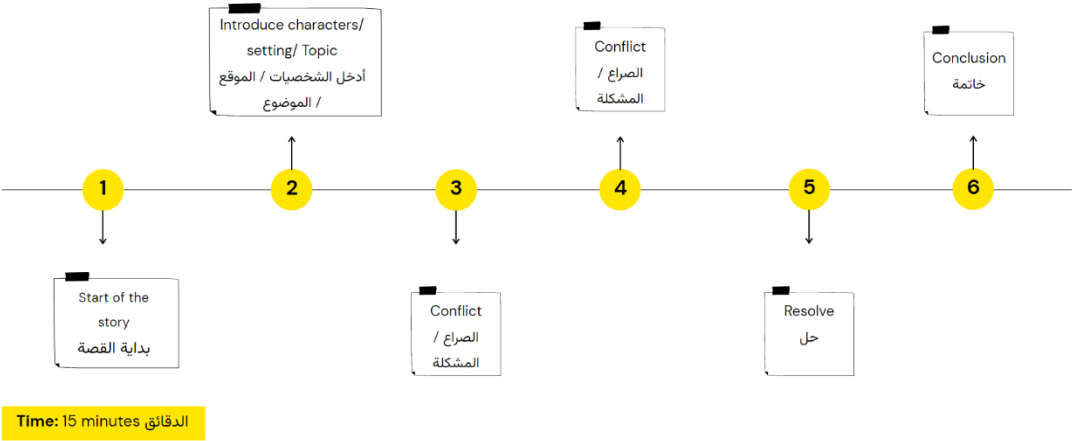


Figure 51. Presentation Slide 45 | Step 4: Timeline outline example

Storyboard

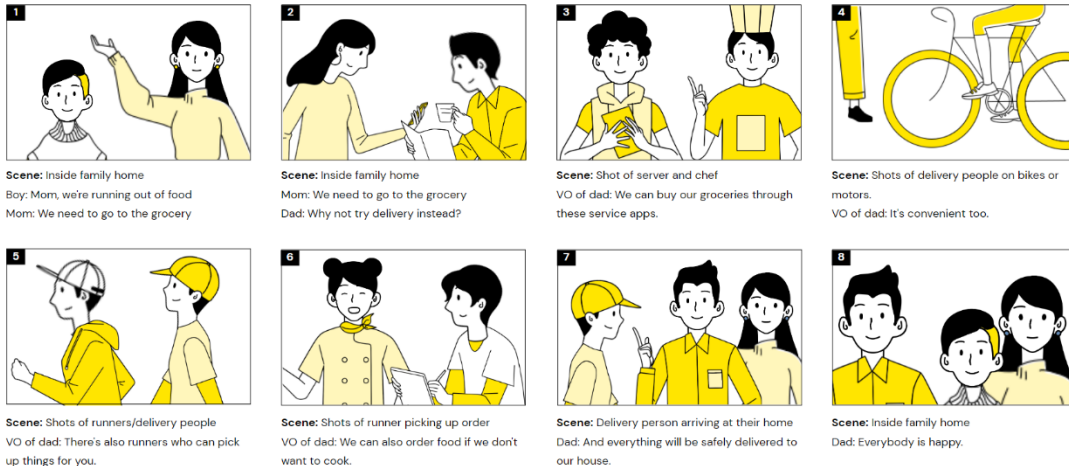
A storyboard is a graphic organizer that plans a narrative. This is where you can take your written story outline and translate it into the specific shots, movements, and interactions of your characters. This is a visual outline of every scene you plan to capture. Storyboards are helpful when producing films, books, and advertisements.

'ستريبورد' هي منظم رسومي يخطط للسرد. تعد القصص المصورة مفيدة عند إنتاج الأفلام والكتب والإعلانات.

Time: 25 minutes الدقائق

Figure 52. Presentation Slide 46 | Storyboard definition

Step 5: Creating storyboards from our timelines



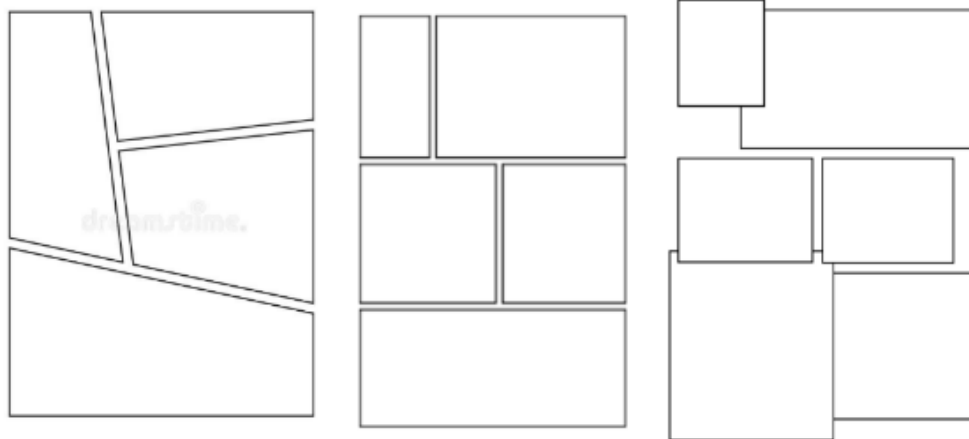
Time: 20 minutes الدقائق

خطوة 5: إنشاء ستريبورد من جداولنا الزمنية



Figure 53. Presentation Slide 47 | Draw the scenes of the storyboard, examples of comic templates

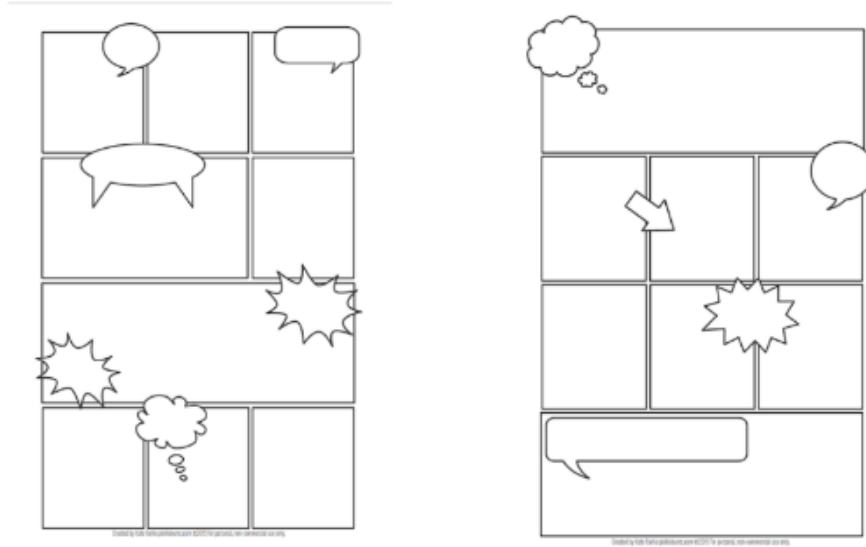
Comic Templates



Time: 60 minutes الدقائق

Figure 54. Presentation Slide 48 | Examples of comic templates – Panel arrangement

Dialogues & Bubbles الحوارات



Time: 60 minutes الدقائق

Figure 55. Presentation Slide 49 | Examples of comic templates – Dialogues & Bubbles for speech



Time: 60 minutes الدقائق

Figure 56. Presentation Slide 50 | Proofread and feedback session for final design



Figure 57. Presentation Slide 51 | Encouraging words while closing the workshop



Figure 58. Presentation Slide 52 | Thank you slide depicting end of workshop

2.3 Results: A Cartoon Catalog

Workshop 1



Figure 59. Cartoon created by Omar, high schooler

This comic illustrates themes of innovation in capitalism wherein the scientist who creates this new genetically modified seed for strawberries to grow in all conditions of climate change is found exploiting the farmer eventually by demanding lots of money for it.

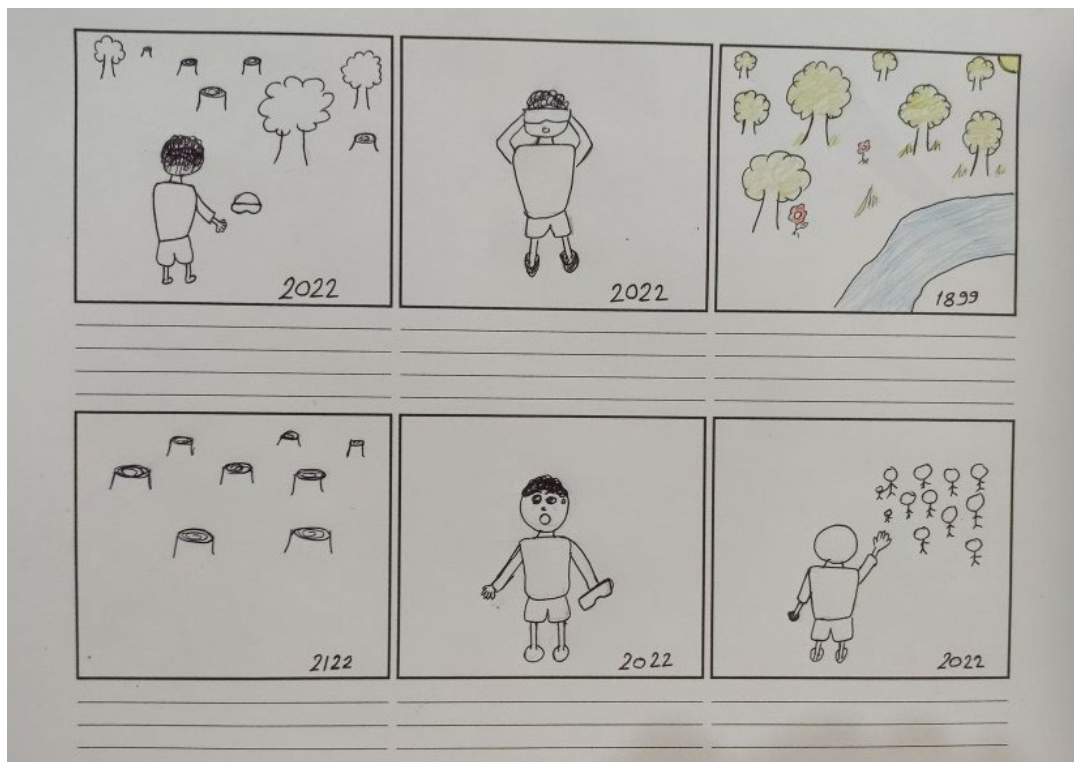


Figure 60. Cartoon created by Abdullah, high schooler



Figure 61. Cartoon created by Zena, high schooler

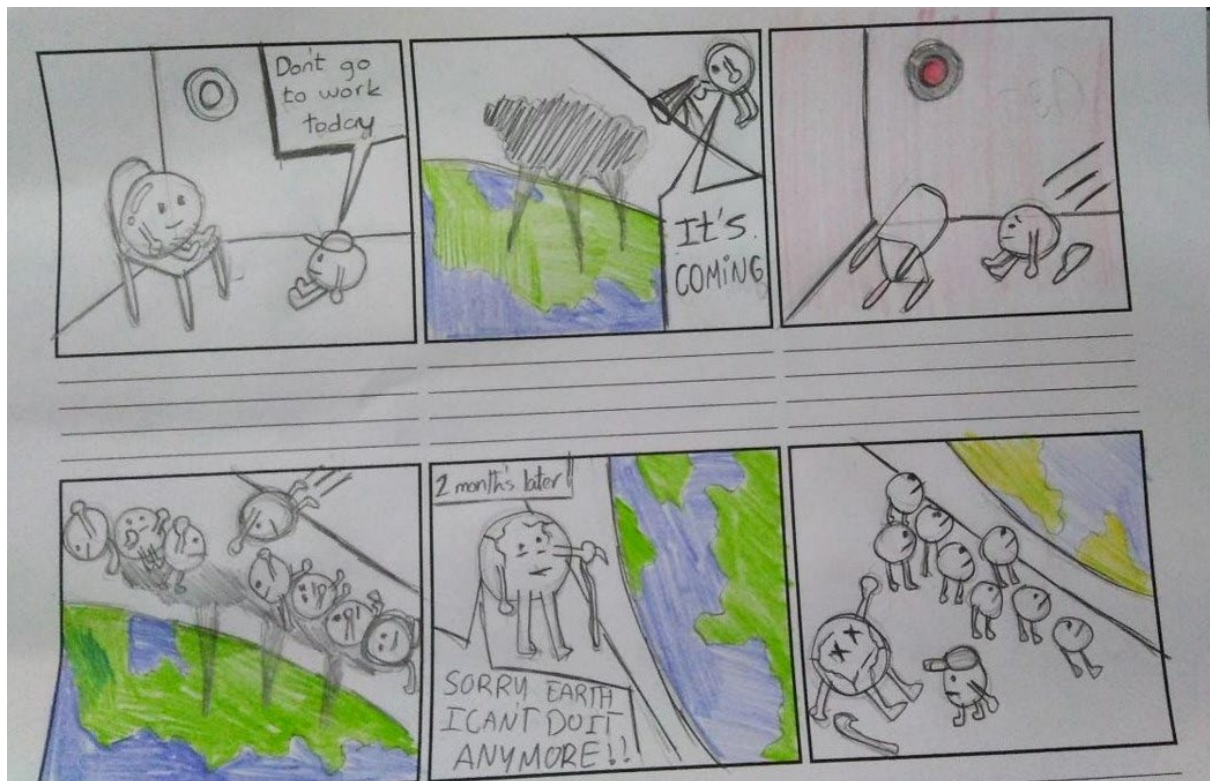


Figure 62. Cartoon created by Musa, high schooler



Figure 63. Cartoon created by Layan, high schooler

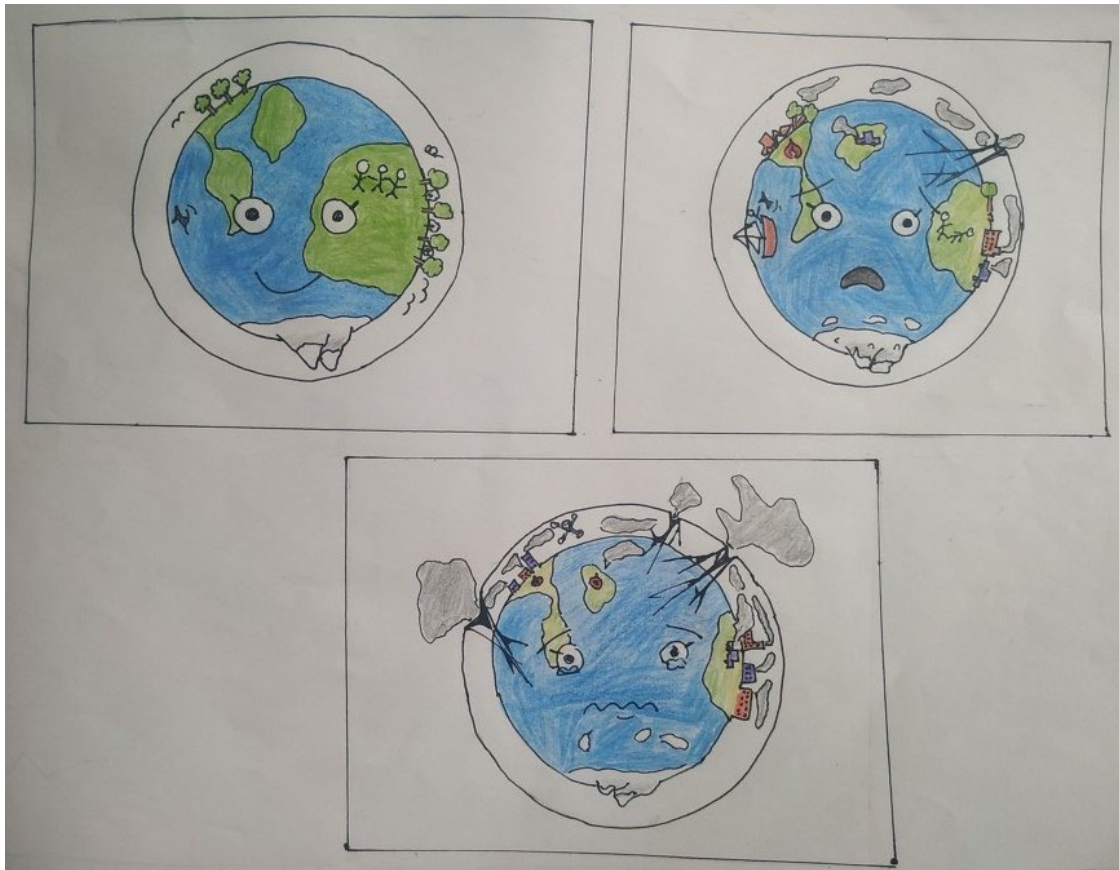


Figure 64. Cartoon created by Menatullah, high schooler



Figure 65. Cartoon created by Hesham, high schooler

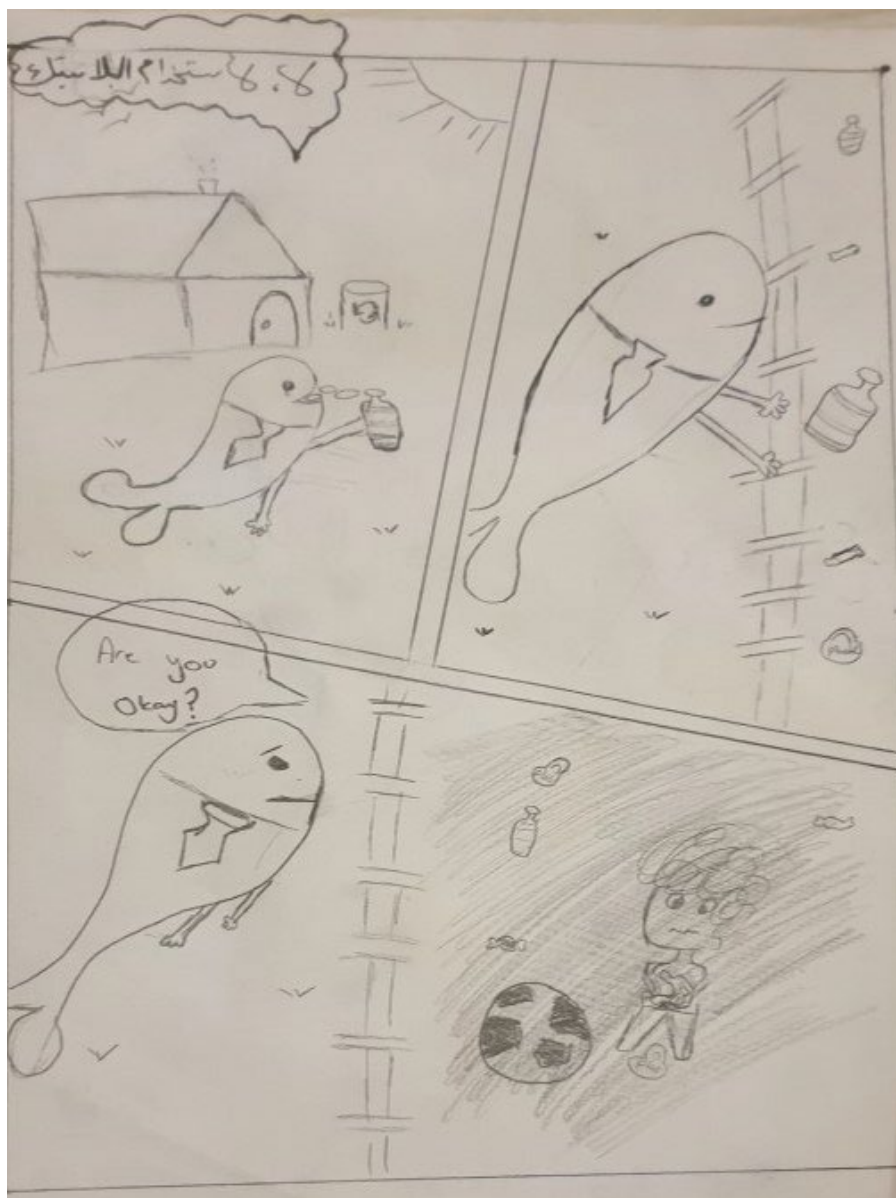


Figure 66. Cartoon created by Fatima, high schooler



Figure 67. Cartoon created by Fatima, high schooler

Workshop 2



Figure 68. Cartoon created by high schooler at Karam Foundation

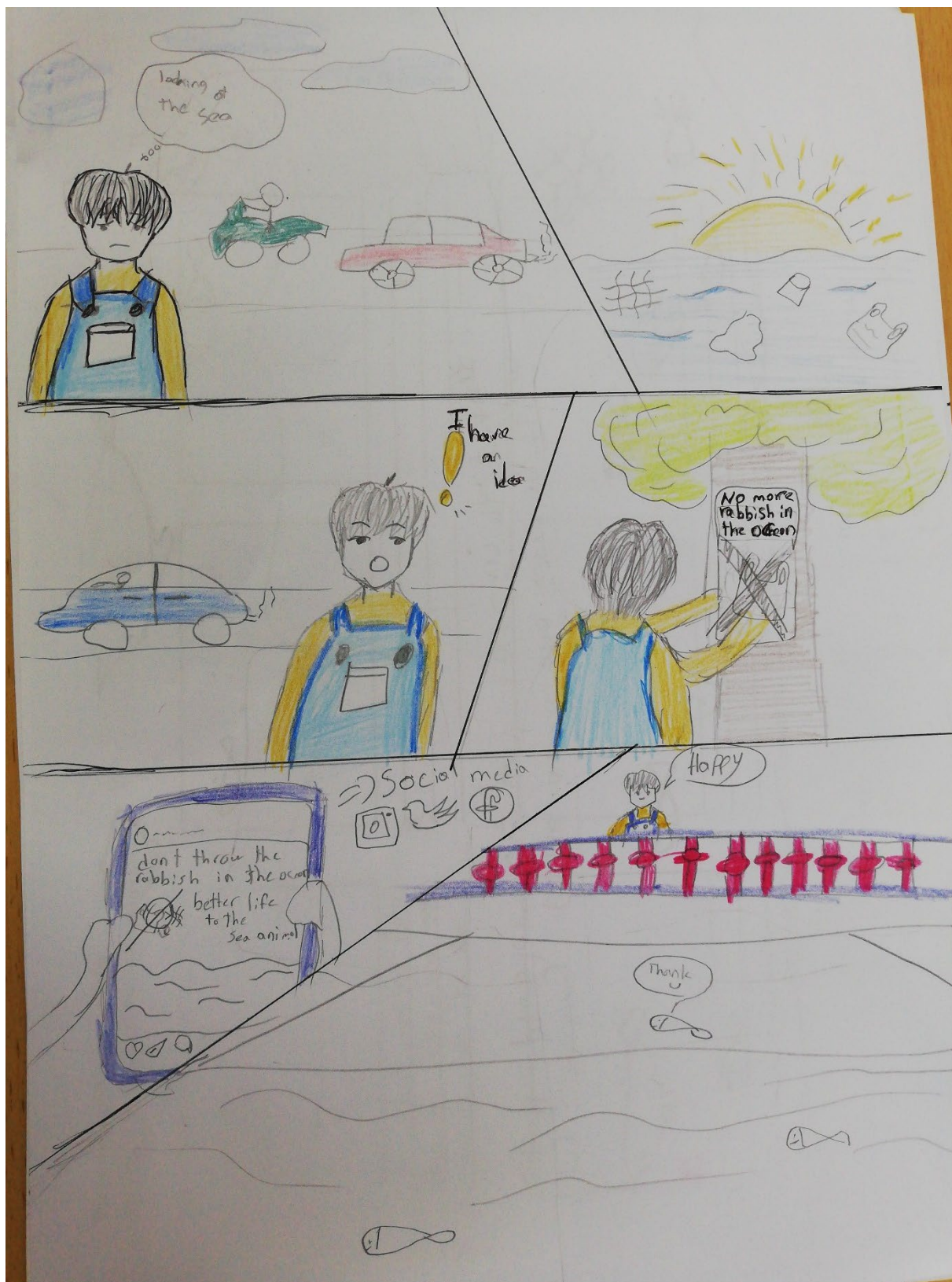


Figure 69. Cartoon created by high schooler at Karam Foundation



Figure 70. Cartoon created by high schooler at Karam Foundation

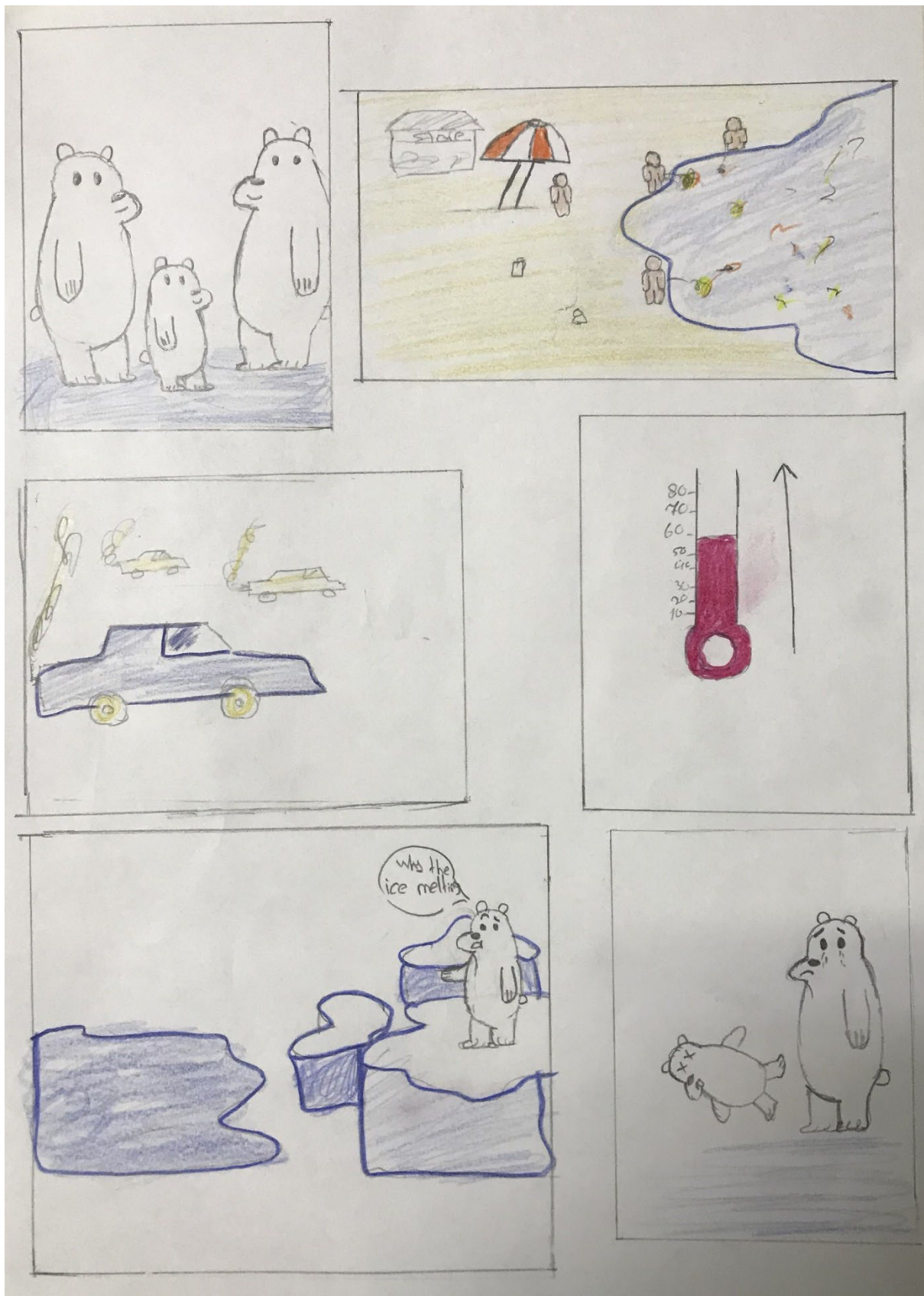


Figure 71. Cartoon created by high schooler at Karam Foundation



Figure 72. Cartoon created by high schooler at Karam Foundation

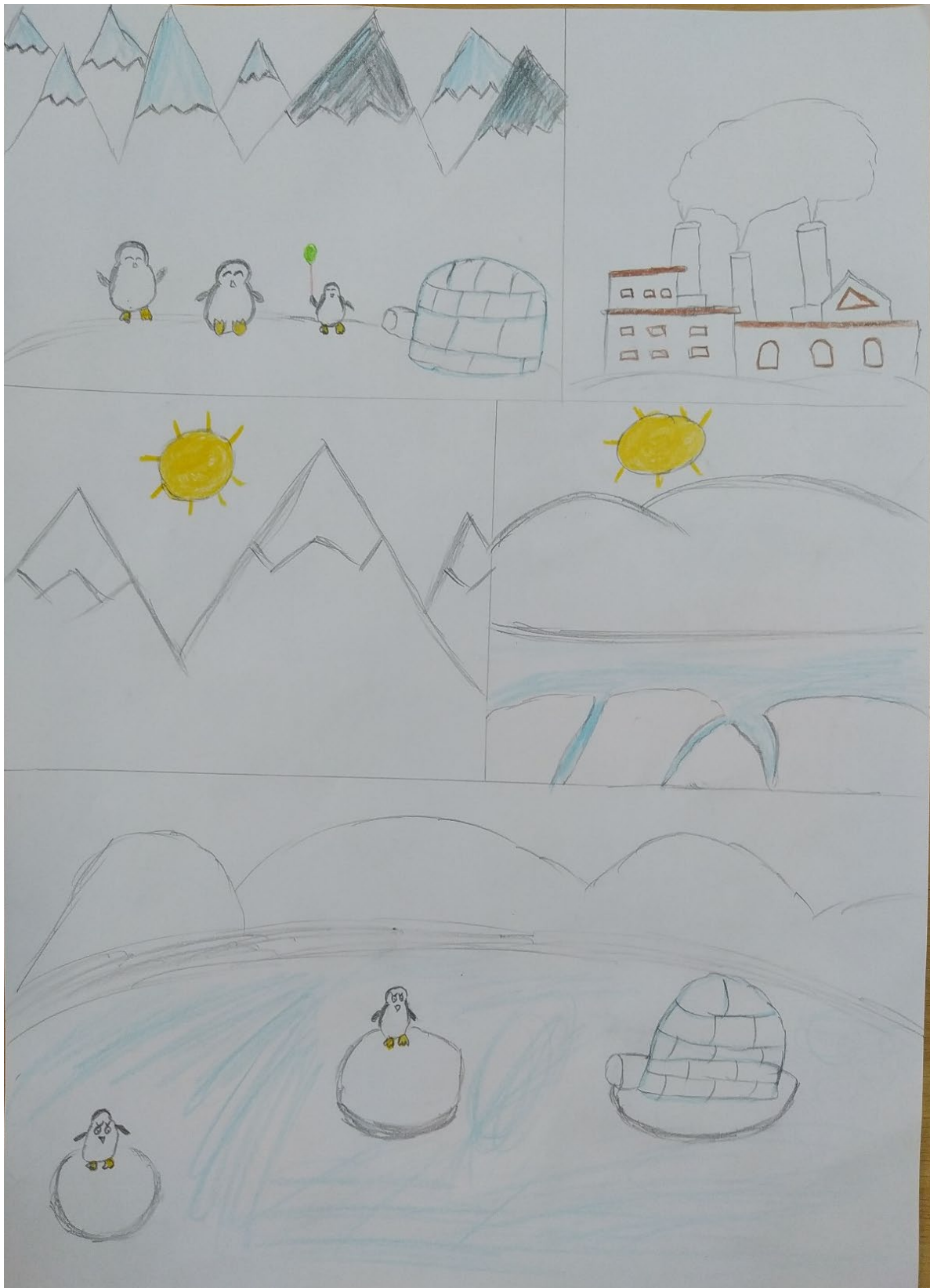


Figure 73. Cartoon created by high schooler at Karam Foundation



Figure 74. Cartoon created by high schooler at Karam Foundation

Chapter 3: Reflection Interview

Following the completion of our two workshops, Sumanth and I conducted a Zoom interview to comprehensively analyze and reflect upon the objectives, methodologies, and key insights derived from our collective experience. This interview served as a platform for formulating thoughtful questions aimed at mutual exploration. Through this collaborative process, we engaged in introspection and critical contemplation, delving into the underlying motivations for our initiatives, our initial expectations, and the strategic pathways for future endeavors.

In hindsight, I've come to realize that the Zoom interview had its shortcomings. We didn't delve deeply into various crucial aspects such as the methodology of the workshops, the true extent of their impact, our roles as facilitators, and the future steps required to establish a comprehensive living cartoon catalog. This framework and catalog would serve as an ongoing resource for city planners, aiding them in addressing or creating awareness around climate change issues. While we had a positive indicator in the form of the Karam Foundation's interest in another workshop, quantifying the actual impact remains uncertain. We lack concrete data as we never conducted a feedback survey, and we have had limited access to the students after the culmination of the two workshops.

The subsequent chapters after the interview include my own reflections on what we missed talking about in the Zoom interview with each other.

Interview transcript:

Sumanth

The thing that I want to start with is, what is the larger goal for these workshops in your mind?

What do you hope that these workshops can do for communities in different parts of the world?

Swathi

I would say that workshop is the starting point. For a prototype of outreach to help more people do the same thing that we are doing. The questions that I'm grappling with is, how can we make climate change issues and climate justice issues part of the larger narrative for a wide variety of audience? So, I was hoping that through this workshop, we are giving more people the necessary tools to talk about climate through cartooning as a medium. Cartooning as an alternative medium, how cartooning can have the power to make people smile, or smirk about something while taking the content seriously. A lot of these reports that are associated with the academia and these conventions that happen all across the world are not accessible to a lot of people. So how do we make people aware of these issues and have conversations about it. I think that was important for me to in the beginning of the workshop, and that is what I envisioned to continue into the future.

Sumanth

I hear two big things, one: how do we enable children but also people from different age groups to express themselves and learn to have dialogue. Learn to have these conversations through drawings as a medium and I think the second thing that I'm getting from that is the idea of how we bring this information from policy makers and climate scientists who are actually working on this and make that available to a larger audience, through a sort of like graphic medium or visual medium that almost anyone can start to engage with.

I guess my next question is, what are your thoughts on who all can engage with this prototype of a workshop? How do you want to make this methodology more accessible in terms of where and who participate or where and who can do this work? I also guess the question of what is

the plan of action that we should start to put together for this work to reach even the most remote corners of the world.

Swathi

So again, there is an element of who is conducting this workshop and then who is it catered towards. So, I would say that anybody who feels strongly about this issue, which I'm hoping is everybody because it feels like we're literally sitting on a ticking time bomb when it comes to climate change.

As we are framing the workshop, we're taking basic parts of like larger reports like the IPCC¹ to dissect. So that shows us that it can just be like one thing that we're talking about, which we can make into a graphic piece so that many people can understand these complex documents like the IPCC. Anybody who has that ability to dissect these things that they want a larger audience to understand, can conduct it.

The workshops content can be conveyed to any number of people and any age groups of people, and I think the fact that we started with students is great because we we've already seen the results and how powerful these cartoons are in conveying their thoughts and feelings about it. One of my inspirations for this workshop was, is this artist named Diala Brisly. She's an artist and she used cartooning and comics as a therapy medium for people who are displaced from their homes, and she conducts workshops herself to talk about different social and political issues. So that was very inspiring for me to know that cartooning is something that people use

¹ The workshops were initially curated to decode parts of the Intergovernmental Panel on Climate Change (IPCC) but later modified to simpler concepts based on the student age group.

to talk about their emotions and thoughts, and I think it's a really powerful way of communicating about important issues.

Sumanth

Yeah, I think I agree with a lot of this. When we started this off, the idea was of creating a guide or a handbook to make sure that we are not the only ones who can take and make this workshop accessible to groups of people. It gets me thinking about what the larger audience is and who is capable of having these conversations within their communities? How can they start to do the same kind of work at a global scale? Maybe the handbook, is the starting point for that larger conversation and making it more accessible so maybe even it's like a PDF that you can download off the Internet somewhere.

Swathi

In the past, how do you think we have fared as workshop facilitators? Are we managing to convey the message of climate change and justice issues to our audience? What about the cartooning part of it? Do you think we did justice and explaining the fascinating world of cartooning especially like cartoon commentary to get political and social messages across?

Sumanth

Yeah, I think about this sometimes. Both you and I are not traditionally cartoon artists. For me, it's about the visual representation and how you can represent your thoughts and ideas in an alternative form. Knowing enough to be able to create small cartoons, I think we do justice to enabling others to start, to take their ideas, write it down and convert those small stories from personal experiences. Introducing our audience to how to start to build their own characters and how to sort of build the settings around it helps them start to visualize “okay,

so I have this idea that I have in my mind around climate so how do I take that idea, break it down, and make smaller frames that start to narrate that story and those smaller frames that stitch that story that I'm trying to convey". Doing the workshop is one part, beyond that, the students would be the people who engage with this, their confidence level with the ability to draw but also the ability to share whatever they've drawn increases once they know how to connect that story to their ability to draw and as a starting point, it can grow from there.

Swathi

I agree with a lot of things that you said especially when what you said we're not traditional or professional cartoonists. But I do think that we're passionate about drawing and like getting our messages across in visual forms, whatever they may be. I think that is something that's important and the whole point of this project when we started it. So, I think that if cartooning is for everyone and anyone, that we should not be scared of making art that is perfect in any way. I think it is okay for it to be as basic as putting colors on a sheet or just drawing out your feelings.

Another reason why I started doing this was because of the class I took with one of my professors called Pedro Molina, and he was instrumental for me to start drawing all over again considering that the first year of my planning school was super theoretical. So, I was eager to get back to using my hands to draw. This really helped me connect back to my design background. I think it is for everyone and that we did a lot of research, looking at the precedents and going through so many different cartooning styles. We did give a lot of examples of what other cartoons have done in different parts of the world, and how we can help the students get basic skills. I think that it was like an introduction to cartooning and I think we did a good job because a lot of students already had that ability to sketch and put things out there. Then there

was a certain structure that we helped them with like the storyboard and narrative writing, that really made a difference to the cartoon that they generated.

Sumanth

That brings me to the question of methodology. What is the methodology we adopt in these workshops?

Swathi

One of the first things is the icebreaker round using cartooning to get them to start drawing. Starting a comic somewhere, because it will be sort of like the first step is draw your emotions, how you're feeling right now. The first prompts that we gave them was “what is your favorite weather? What emoji do you associate with that kind of weather and then draw that out” as a starting point. This helps get them confident about drawing their personal experience to some level.

The next step in our methodology is the facial expressions: how to combine the eyes, the nose, and the mouth. How expressions matter, to convey emotions in the characters. Then we spoke about precedents of other climate cartoonists.

*Showing the audience different types of comics that are there so that they can identify different aesthetics. The other thing is to have a look specifically at cartooning for climate and we used the book *The Cartoon Introduction to Climate Change* by Grady Klein and Yoram Bauman.*

We then took a moment to reflect on personal experiences and write down the stories: What is the topic that they are trying to comment on? How does the character that the audience have started to build fit into that narrative. The brainstorming that happens in between on how to feed these characters and narrative into different scenes and different parts of a storyboard by

breaking the narrative down into multiple frames. More like a multi-panel comic than a cartoon.

Then we went on to show different methods of storyboarding. We talked about how cartooning could be a single panel or like a combination of different panels. We showed examples of how different layouts could look to close the session. The entire methodology adopted is about empowering the audience on visual representation and how to communicate ideas with the right tools.

Chapter 4: Frameworks Of Analysis

Climate change is one of the most pressing issues of our time, and in resolution of this challenge, it is essential for city planners to engage a wide range of audiences, particularly the youth, in participatory planning processes. Recognizing the urgency of addressing climate change and involving diverse stakeholders in the planning process, innovative approaches to communication have emerged as invaluable tools. Among these, one medium that has gained traction in recent years is activism in the form of cartooning, which provides an alternative and engaging method of communication. This visually captivating form of storytelling not only transcends language barriers but also has the potential to resonate with a broad audience, making it an effective tool for conveying complex information and mobilizing support for climate action.

I am still in the process of understanding the power of cartoons in conveying environmental messages and exploring how city planners can harness this creative medium to connect with youth and foster meaningful engagement in the fight against climate change.

The diagram (Fig. 73) below illustrates how I draw from existing fields of study and literature to inform this report and my ongoing interests.

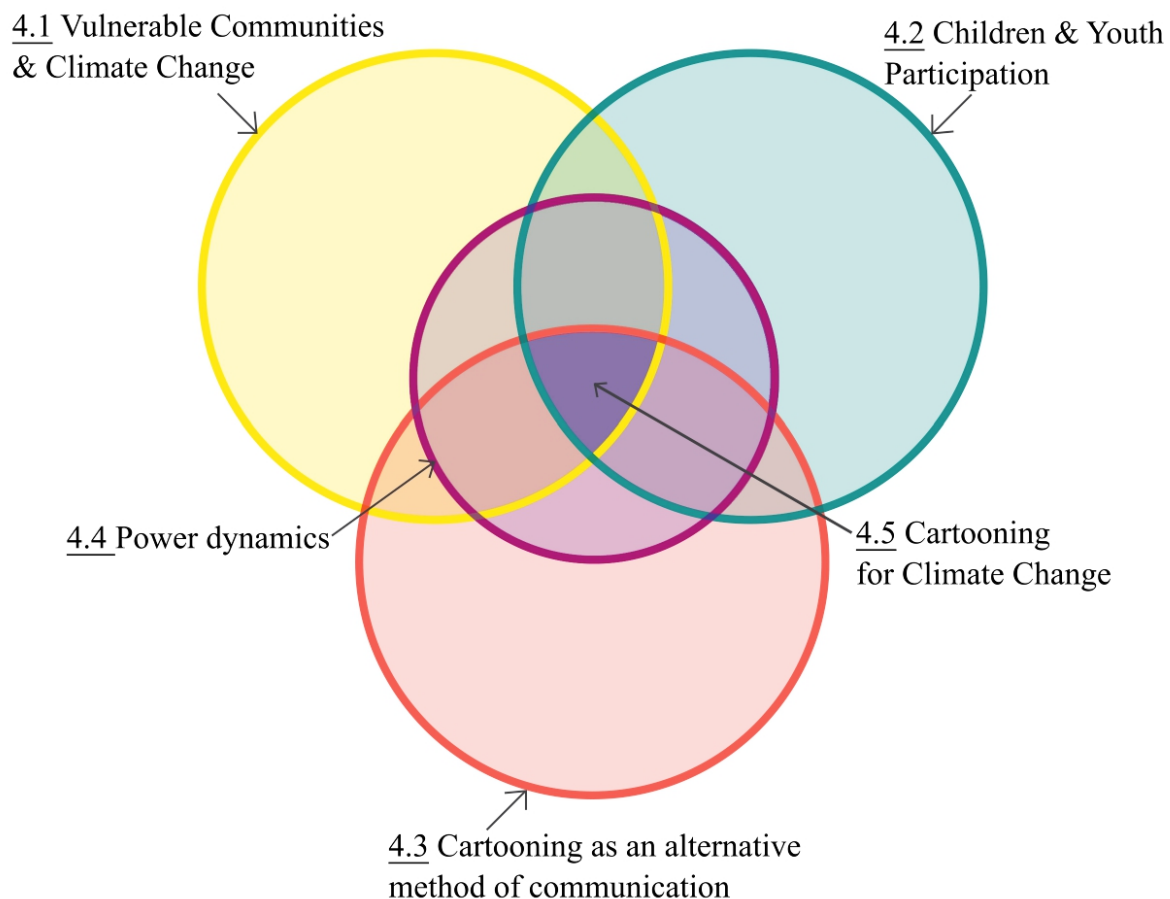


Figure 75. Frameworks of Analysis | Structure

4.1 Vulnerable Communities & Climate Change

Climate change is one of the most pressing issues facing the world today, with potentially significant impacts on human society and the natural environment. Some communities are disproportionately affected more than the others which is further exacerbated by prevalent inequities. The need for effective communication strategies that can engage socially vulnerable communities and effectively communicate climate change-related risks and hazards has never been greater (Wilson et al., 2022).

It is essential to tackle the communication hurdles in promoting climate change awareness and risk communication to promote inclusivity and comprehension within socially vulnerable communities. Participatory planning involves engaging stakeholders in the planning process, giving them a voice in decision-making. Cartooning can be used as a tool in participatory

planning, providing stakeholders with an engaging and accessible medium to communicate their ideas and perspectives. By using cartooning, city planners can create a more inclusive and participatory planning process, engaging a wider range of stakeholders, including those who may feel excluded from traditional planning methods. In Figure 77, another cartoon featured in the Voices of Youth report by UNICEF portrays individuals from diverse backgrounds ardently advocating for the planet's welfare, further emphasizing the potency of collective action.



Figure 76. Illustration by Mukah Ispahani, Sophia Paez and Blanca Quiñonez for Voices of Youth / UNICEF (Making climate and environment policies for and with children and young people 2021)

Cartooning has the potential to be an effective and engaging medium of communication for city planners to talk about climate change and engage a wider audience, particularly the youth, in participatory planning processes. By using cartooning, city planners can create a more inclusive, engaging, and accessible planning process that reflects the diversity of perspectives and ideas within their communities. As such, city planners could explore the use of cartooning in their communication and engagement strategies for climate change planning.

4.2 Children & Youth Participation

Engaging the youth in climate change planning is crucial, as they are the ones who will inherit the consequences of inaction as seen contemporarily and historically. Youth participation can also lead to more innovative and creative solutions (*Youth Are Key to Accelerate Innovative Climate Technologies 2022*). However, engaging the youth can be challenging, as they often feel disconnected from traditional forms of communication and planning. By using cartooning as a medium of communication, city planners can connect with the youth in a more engaging and accessible way. In Figure 75, the depicted cartoon showcases young individuals from diverse backgrounds passionately advocating for the well-being of the planet, as adults attentively listen to their voices.



Figure 77. Illustration by Mukah Ispahani, Sophia Paez and Blanca Quiñonez for Voices of Youth / UNICEF (Making climate and environment policies for and with children and young people 2021)

Figure 76 presents a visual representation of the children of Europe, the Middle East, and Africa (EMEA)'s keen interest in deepening their understanding and active involvement in climate change awareness. It underscores the significance of this issue to them and their strong desire to play a pivotal role in the ongoing dialogues concerning it (Cartoon Network EMEA Study Finds Climate Change Key Kids' Concern, 2021).

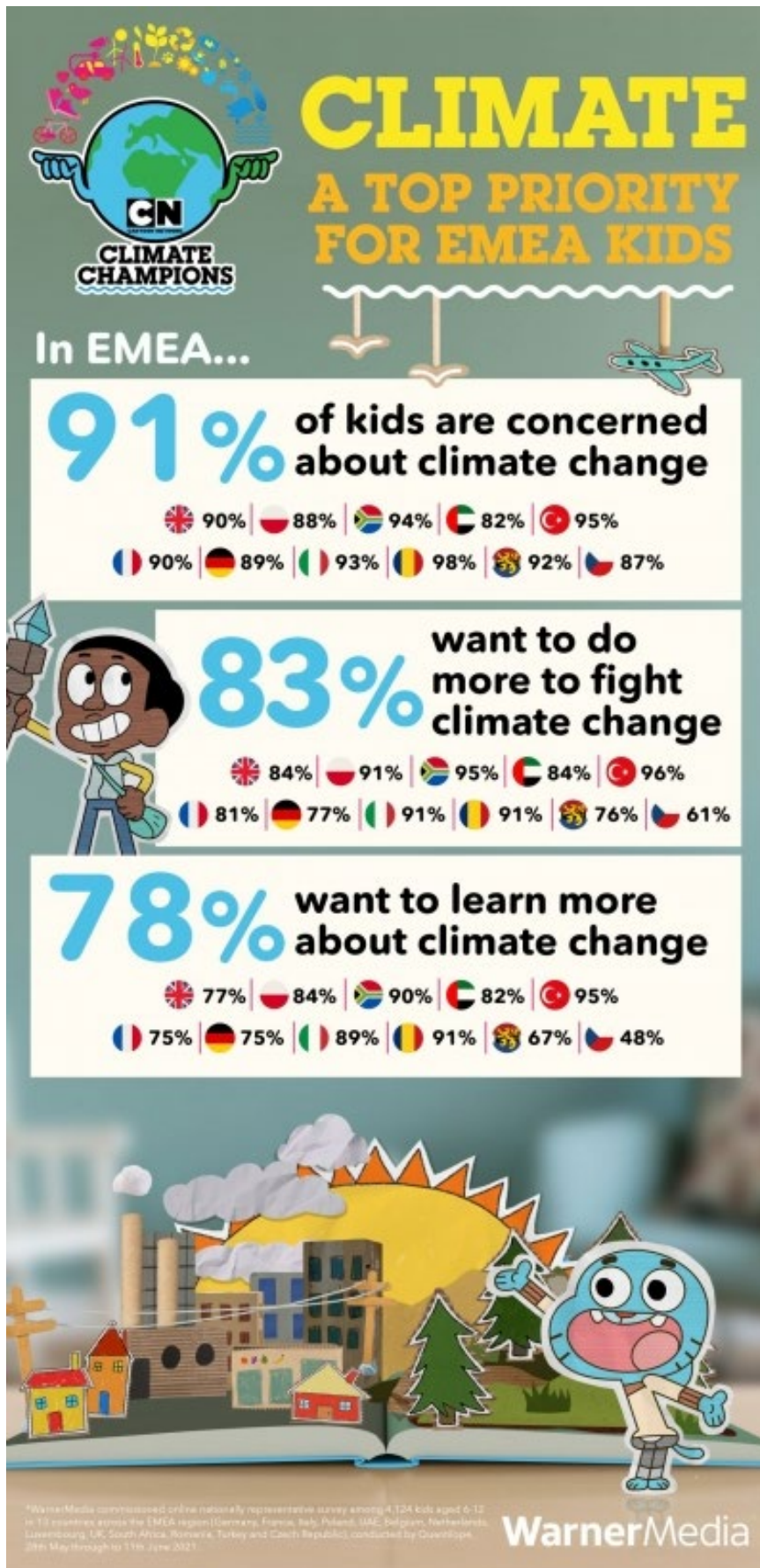


Figure 78. Source: [\(Cartoon Network EMEA Study Finds Climate Change Key Kids' Concern, 2021\)](#)

Young people have unique perspectives on their cities and can offer valuable insights into creating more liveable, sustainable, and inclusive communities. Yet, they seem to be often excluded from decision-making processes (Driskell, 2017). Driskell's work provides guidance on creating safe and inclusive spaces for children and youth to participate actively in decision-making processes, which aligns with the report's focus on conducting workshops that foster a conducive environment for decoding complex climate concepts and encouraging dialogue among a diverse audience, especially youth, in this case the refugee students.

Moreover, Driskell's manual emphasizes the need for inclusive decision-making, where young voices are considered, valued, and integrated into urban development initiatives. This principle resonates with my report's ambition to communicate climate risks to communities, highlighting the importance of involving marginalized communities, including youth, in climate action.

Additionally, Driskell's book introduces participatory principles like those found in Gaventa's Power Cube, which can be adapted to create a framework for planners to effectively communicate climate risks and solutions to communities. The report draws on Driskell's manual to underpin its proposal for a framework that facilitates inclusive climate action and encourages the active participation of marginalized communities, particularly marginalized youth.

Driskell's emphasis on empowering young people to express themselves and shape their environments aligns with the report's goal of using cartoons as a creative medium for climate communication. By leveraging the power of cartoons, the workshops aim to engage youth in creative expressions, stimulating their interest in climate change and fostering united responses to the climate crisis.

David Driskell's "Creating Better Cities with Children and Youth: A Manual for Participation" thus, offers valuable insights and principles that support the development of the participatory

framework proposed in this report. This framework harnesses the potential of cartooning to educate and engage Syrian refugee students in climate change discussions, promoting creative engagement, and encouraging collaborative climate action within their unique cultural contexts. Driskell's work underscores the importance of involving youth in urban and environmental discussions, reinforcing the report's call for inclusive climate action and creative engagement. Here I have applied the principles outlined in Driskell's book for workshop series:

1. Participation: The decision to involve the Syrian refugee students from the middle to high school levels in the workshop was integral for us to understand their stance and outlook on climate change issues. We sought their input and feedback throughout the workshop to ensure that it was meeting their needs and interests. We also encouraged them to express their ideas, opinions, and concerns about climate change and its impacts.
2. Empowerment: The goal was to empower the students by giving them the tools and skills to communicate their ideas effectively. This provided them with opportunities to develop their creativity, critical thinking, and problem-solving skills through cartooning. We also encouraged them to take ownership of their work and to share their stories with us at the end of the workshop as well as others.
3. Inclusiveness: We ensured that the workshop was accessible and inclusive to all of Karam Foundation's students, regardless of their background or abilities. The Karam Foundation had facilitators on ground who translated my presentation in English to Arabic in real-time. The contents of slides were also translated beforehand for the students to understand better. We also had to read through a document containing instructions about maintaining privacy and being sensitive to the culture, political status, and trauma of the refugee students. We thus, used language and imagery that is sensitive and respectful to their cultural and

religious beliefs. We also encouraged them to work together and to appreciate each other's strengths and differences.

4. Sustainability: Using examples from the book 'The Cartoon Introduction to Climate Change' by Yoram Bauman and Grady Klein, we encouraged the students to think about the long-term impacts of climate change on their communities and the world. We touched upon ways in which they can make a positive difference through the smallest of actions. We used simple tools and materials in the workshop, such as paper templates and pencils, color pencils, crayons and whatever was accessible to them.

5. Creativity: The workshop was curated in a way to foster the students' creativity by providing them with a safe and supportive environment to experiment and take risks. We encouraged them to think outside the box and to challenge conventional ideas about climate change by providing examples of other climate cartoonists from Syria and around the world. Providing them with examples of innovative and inspiring cartoonists who use their art to raise awareness about social and environmental issues also gave them hope and courage to do the same and use their voice to make an impact.

By following these principles, the 'Cartooning for Climate' workshop series aimed to create a meaningful and engaging learning experience for the Syrian refugee students in Turkey, while empowering them to make a positive difference in the world.

The 'Cartooning for Climate' workshop can also be analyzed using five key dimensions of participation as a spatial practice as outlined in 'Creating Space for Participation: The Role of Organizational Practice in Structuring Youth Participation' by Neema Kudva and David Driskell (2009):

1. Normative dimension: The normative dimension refers to the values, principles, and goals that guide youth participation. This includes aspects such as social justice, equity, and

empowerment. The workshop aimed to promote climate and social justice and equity by educating Syrian refugee students on the impacts of climate change and how it affects various populations across the world. By empowering the students with the skills and knowledge to create cartoons, the workshop also aimed to give them a platform to raise awareness about climate change and its impacts.

2. Structural dimension: The structural dimension refers to the organizational structures and hierarchies that shape youth participation. It includes aspects such as power dynamics, leadership roles, and institutional culture. The workshop had a clear leadership structure, with the organizers, Sumanth Krishna and I, along with the Karam Foundation, taking on the role of leaders. This report aims to find out how power dynamics played out during the workshop in the next sections.

3. Operational dimension: The operational dimension refers to the rules, procedures, and protocols that govern youth participation. This includes aspects such as decision-making processes, communication channels, and accountability mechanisms. As workshop organizers we provided a clear set of instructions and activities for the students to follow. This included teaching the students about cartooning, storytelling, and storyboarding, requiring them to create a multiple-panel cartoon on climate change. Our collaboration with the Karam Foundation provided on-ground facilitators to support the students during the workshop.

4. Physical dimension: The physical dimension refers to the design and layout of the physical space where youth participation takes place. It includes aspects such as accessibility, safety, comfort, and aesthetics. The workshop was conducted over zoom between Sumanth, the Karam Foundation and I. Sumanth was connecting from Vermont, while I was connecting from New York in the United States and the Karam Foundation had gathered all the student participants in their workshop classroom based in Turkey. This combination of virtual and

physical environments could have had an impact on the students' ability to fully engage in the workshop.

5. Attitudinal dimension: The attitudinal dimension refers to the attitudes, beliefs, and values of the individuals involved in youth participation. This includes aspects such as respect, trust, and openness. As organizers we approached the workshop with an open and respectful attitude towards the students, recognizing their agency and ability to learn and create. By teaching the students about climate change and cartooning, we also encouraged the students to express their perspectives and views on the issue. Overall, the 'Cartooning for Climate' workshop seems to have addressed most of the key dimensions of participation as spatial practice.

4.3 Cartooning as an Alternative Method of Communication

City planners must be able to communicate the urgency and importance of climate change planning to a diverse range of stakeholders. However, traditional forms of communication, such as reports and presentations, are often dry and unengaging. In the article "Fear Won't Do It": Promoting Positive Engagement With Climate Change Through Visual and Iconic Representations by O'Neill, S., & Nicholson-Cole, S. (2009) the authors mention two empirical studies: the Imagery study (VisionS) and the Icon study (IconS). The Imagery study found that "fear-inducing imagery can lead to disengagement, helplessness, and fatalism". The Icon study found that "positive, iconic representations of climate change can promote engagement, hope, and action". The article suggests that there are types of visual imagery, icons, and combinations of messages that can be engaging and can specifically help to make climate change a personally salient issue for people and one that they feel able to do something about. City planners can explore alternative forms of communication that can capture the attention and imagination of a wider audience. One such medium is cartooning.

Cartooning is a form of visual storytelling that has the potential to communicate complex ideas in a simple, engaging, and entertaining manner. Cartoons can be used to communicate a wide range of messages, including those related to climate change planning. Cartoons have the potential to engage audiences across age groups, particularly youth, who often have shorter attention spans and a preference for visual media. As illustrated in Figure 74, the cartoon portrays a group of young individuals assuming the roles of superheroes uniting to combat climate change, highlighting the efficacy of collective action in addressing this critical issue.



Figure 79. (Cody Wilson/Daily Bruin) (Panaligan, 2019) Source: <https://dailybruin.com/2019/10/01/youth-and-social-media-fuel-movement-demanding-action-to-fight-climate-change>



Figure 80. For 'art and climate indifference': Rohan Chakravarty, www.greenhumour.com and Global Resilience Partnership / COP27 Resilience Hub

4.4 Power Dynamics

In the reflection interview between Sumanth and I, the question about “...who all can engage with this prototype of a workshop? How do you want to make this methodology more accessible in terms of where and who participate or where and who can do this work?...”, was more or less left unanswered. It begs the question of the power dynamics in the room because for students to have their voices heard involves so many factors such as who is giving them a voice, who is hearing it and what are they doing about it.

A. Gaventa's Power Cube

Applying John Gaventa's Power Cube Structure

It is crucial to consider the dynamics of power within the context of a workshop or class, as these dynamics can significantly influence the learning experience and outcomes. In workshops aiming to empower students with the skills to address global issues like climate change, the presence and distribution of power plays a pivotal role. It further helps us dissect the various dimensions of power at play during such workshops, shedding light on the importance of acknowledging and addressing power dynamics to ensure meaningful and equitable youth engagement in initiatives like this one and to gain deeper insights into the workshop's impact and effectiveness.

A. Forms of Power

According to John Gaventa's power cube, there are three forms of power: visible, hidden, and invisible. There can be visible power structures such as formal authority and the power of the state. Hidden power structures such as cultural norms and values exist, while power at the bottom refers to invisible power structures such as the inherent power of marginalized communities and their ability to resist and challenge dominant power structures.

The issue of climate change affects everyone, including marginalized communities such as refugees who are forced to flee their homes due to war and conflict. In response to this issue, this workshop was conducted for Syrian refugee students to help them understand the impacts of climate change on their lives and to empower them by offering an alternative medium of communication. In this section of the analysis, I will apply John Gaventa's forms of power framework for my analysis.

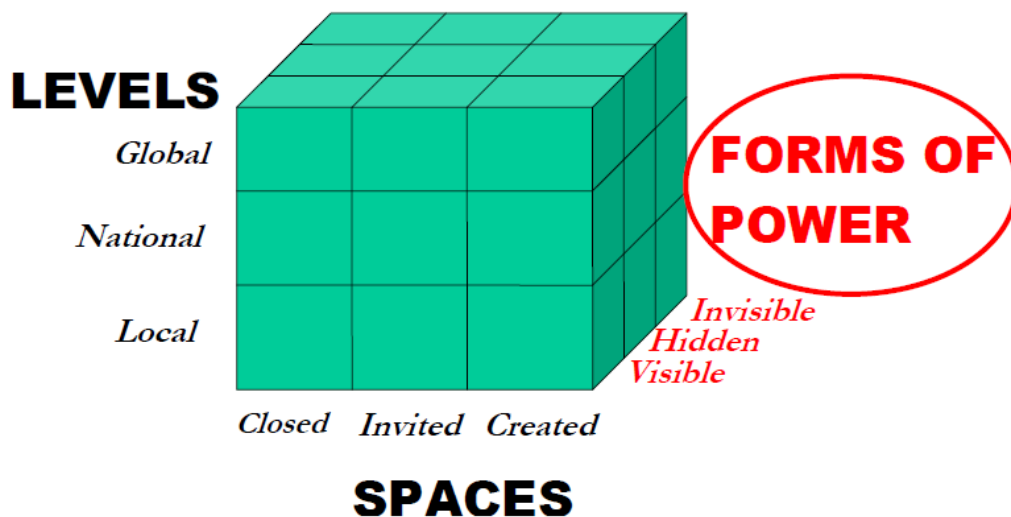


Figure 81. Forms of Power: Invisible, Hidden, Visible | Source: *Power pack - understanding power for Social Change* | the powercube 2009

i. Power at the Top | Visible Power:

Power at the top refers to visible power structures such as formal authority and the power of the state. In this workshop, power at the top was evident in the role of the facilitators and teachers who designed and conducted the workshop. The Karam Foundation had the power to organize, to create, to invite, and coordinate the workshop, while Sumanth and I, as collaborators, had the power to design and curate the curriculum, set the time and agenda, and facilitate the workshop over Zoom. The authority of the teachers was used to guide the students in learning about the issues of climate change and how to use cartooning as a medium of communication to express their ideas.

ii. Power in the Middle | Hidden Power:

Power in the middle refers to hidden power structures such as cultural norms and values. In this workshop, power in the middle was evident in the cultural norms and values of the Syrian refugee students that influenced their understanding of climate change and their

ability to express their thoughts and ideas through art. The facilitators and teachers were aware of these cultural norms and values and ensured that the workshop was designed in a way that was sensitive to the cultural backgrounds of the students. For example, we introduced various cartoonists from Syria and around the world to the students to give them a broader perspective on how people from different backgrounds in their region and elsewhere approach the issue of climate change. The facilitators at the Karam Foundation had also sent us a 'code of conduct' document to be followed prior to the workshop so that we could avoid any harm, trauma triggers or breach of privacy to the students considering their precarious situation as refugees. This created a safe space for the students to learn and express their thoughts and emotions throughout the course of the workshop.

iii. Power at the Bottom | Invisible Power:

Power at the bottom refers to invisible power structures such as the power (or lack thereof) of systematically marginalized groups and their ability to resist and challenge dominant power structures. In this workshop, power at the bottom was evident in the power of the students to use cartooning as an art form to voice or express their emotions, experiences, and perspectives on climate change. Just by putting their art into the world they were able to visualize how to challenge dominant power structures and highlight the impact of climate change on their lives through their cartoons. By using cartooning as a medium of communication, they were able to overcome language barriers and express themselves in a creative and powerful way. Additionally, the on-ground facilitators had the power to connect with the students on a more personal level and provide support where necessary, creating a supportive and empowering environment for the students.

Applying John Gaventa's power cube analysis to the Cartooning for Climate workshop for Syrian refugee students allowed for a comprehensive understanding of the different

dimensions of power present in the workshop. The presence of the Karam Foundation and on-ground facilitators helped to address power imbalances and create a more inclusive and empowering environment for the students. The use of cartooning as a medium of communication allowed the students to express their ideas and experiences in a novel way. By empowering marginalized groups to use art to express themselves, this workshop serves as an example of how alternative methods of communication can be used to challenge dominant power structures and promote social justice.

B. Spaces of Engagement

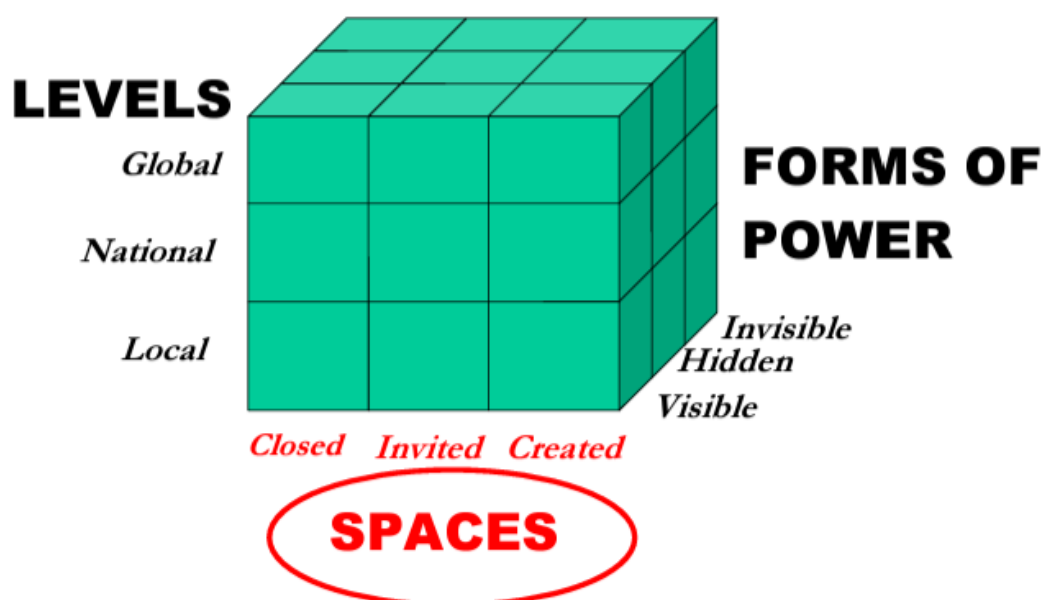


Figure 82. Spaces of Power: Closed, Invited, Created | Source: *Power pack - understanding power for Social Change* | the powercube 2009

The spaces of engagement framework developed by John Gaventa is a useful tool for understanding how power operates in different spaces of social and political life. According to Gaventa, engagement can occur in three spaces: the public space, the organized space, and the hidden space. The public space is where people come together to discuss and debate issues of public concern. The organized space is where people come together to form groups and

organizations to advocate for their interests. The hidden space is where power is exercised behind closed doors and away from public scrutiny.

i. Closed space | Public:

Using the spaces of engagement framework, in terms of the public space, the workshop was open to all the Syrian refugee students in the Karam Foundation Network based in Turkey. There was a sign-up form created for the students to register based on their interest. This provided a platform for the students to come together and discuss the impacts of climate change on their lives and communities. By creating cartoons on this issue, the students were able to express their views and raise awareness among their peers and communities.

ii. Invited space | Organized:

In terms of the organized space, the Karam Foundation, as the co-organizer of the workshop, provided resources and access to facilitators on the ground who could help the students. The facilitators, in turn, helped the students with English to Arabic translations and to create their cartoons to tell their stories in compelling and engaging ways. As curators of the workshop, Sumanth and I had a certain level of organizational control pertaining to the contents of the presentation, the time limit for each activity and to provide our feedback at the end of the session. By following the 'Code of Conduct' sent by Karam Foundation prior to the workshop, we (Sumanth and I) as outsiders to the Karam House community were also able to foster a safe space along with their facilitators for the students to learn freely and without inhibitions.

iii. Created space | Hidden:

In terms of the hidden space, the workshop aimed to challenge dominant discourses on climate change and to empower the students to create their own narratives. By using cartoons as an alternative medium of communication, the students were able to redefine what is considered legitimate and to challenge the power structures that shape how we talk about complex issues such as climate change. In the beginning of the workshop, I also noticed how some students were more reluctant to share their stories as compared to their peers who were more eager to share their narratives. However, this dynamic changed towards the end of the workshop wherein all the students were enthusiastically participating and sharing their cartoons for everyone to see. The contents of the workshop were specifically designed in a way to intend for this engagement to happen through icebreaker activities, slow introduction of how to draw basic shapes and then moving on to the more complex cartooning exercises. There were also multiple breaks provided over the course of four hours for the students to relax, drink tea and eat snacks.

In conclusion, by analyzing the workshop through the lens of the spaces of engagement framework, we can see how engagement occurred in multiple spaces, from the public to the organized and the hidden. The workshop provided the students with a platform to express their views and to challenge dominant discourses on climate change. By using cartoons as an alternative medium of communication, the students were able to redefine what is considered legitimate and to create their own narratives. The workshop set a powerful example of how marginalized communities such as refugees can be empowered to engage with critical issues such as climate change through creative, engaging, and participatory processes.

C. Levels of Power

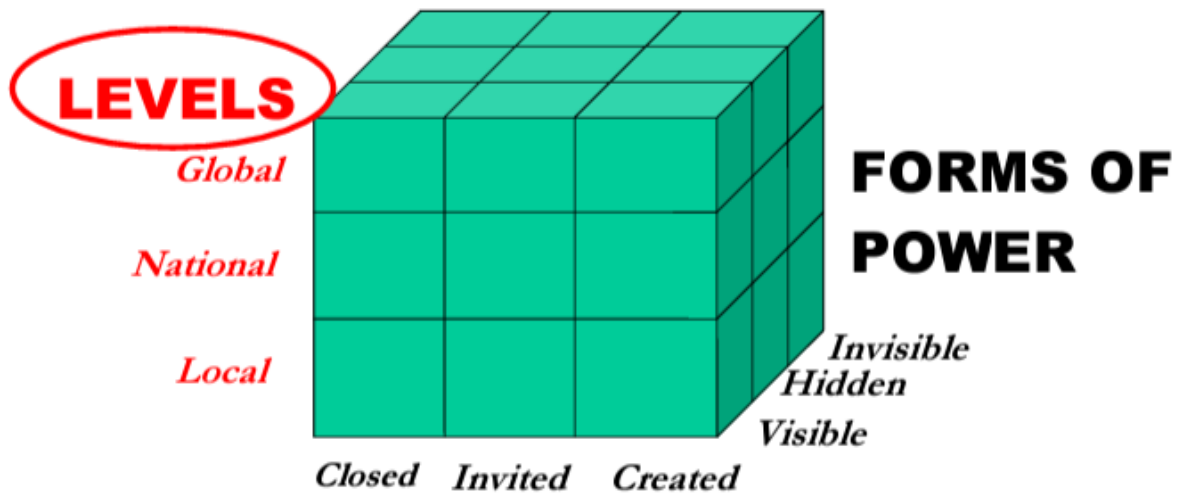


Figure 83. Levels of Power: Global, National, Local | Source: *Power pack - understanding power for Social Change* | the powercube 2009

According to John Gaventa's power cube, power operates at three levels: global, national, and local. The global level refers to the power held by international organizations, corporations, and other global actors. The national level refers to the power held by national governments, while the local level refers to the power held by local governments, communities, and individuals.

i. Global level:

Using the levels of power framework, at the global level, the workshop aimed to raise awareness among the students about the global impacts of climate change and to empower them to create cartoons that could potentially reach a global audience. The workshop introduced various cartoonists from Syria and around the world who have used cartoons to communicate on climate change, highlighting the global reach of this medium. The fact that the workshop was conducted over zoom by Sumanth and I from the United States with the Syrian refugee students currently based in Turkey in addition to another facilitator from the Karam Foundation

joining from France, also adds to the global dimension in the sense that it highlights the power of social media and the internet to connect with populations far and wide globally.

ii. National level:

At the national level, the workshop aimed to empower the students to advocate for their rights and interests in the face of climate change. The students were taught about how climate change has impacted various populations around the world and were encouraged to think about how it has affected their own communities in their home country of Syria. By creating cartoons that highlighted the local impacts of climate change, the students were able to raise their own awareness as well as among their peers and to advocate for their rights.

iii. Local level:

At the local level, the workshop provided a platform for the students to express their views and to tell their stories in their own words (drawings). The students were taught how to make cartoons, to do storytelling, and storyboarding, and were given the freedom to create their own narratives on climate change. By using cartoons as an alternative medium of communication, the students were able to express their views in a creative and engaging way. Studies have also shown that children have significant influence on creating climate awareness among their parents (Denworth, n.d.) (Lawson et al., 2019). This engagement on a local level within the family structures of students is a small but significant step in helping to raise climate awareness levels of communities as a whole.

In conclusion, the workshop on ‘Cartooning for Climate’ for the Syrian refugee students was a powerful example of how the levels of power framework can be applied in practice. By analyzing the workshop through the lens of the levels of power framework, we can see how power operates at the global, national, and local levels in relation to climate change. The workshop provided the students with a platform to express their views and to advocate for their rights, while also highlighting the global impacts of climate change. By using cartoons as an alternative medium of communication, the students were able to create their own narratives on climate change and to reach a wider audience. The workshop was a powerful example of how marginalized communities such as refugees can be empowered to engage with critical issues such as climate change at all levels of society.

An example of the interplay of three dimensions of John Gaventa's power cube

The three dimensions of John Gaventa's power cube are interconnected and mutually reinforcing. Each dimension influences the others, and they work together to shape power relations in society. The various combinations can be:

- i. Visible forms of power in Created spaces
- ii. Visible form of power in Invited spaces
- iii. Visible forms of power in Closed spaces
- iv. Hidden forms of power in Created spaces
- v. Hidden forms of power in Invited spaces
- vi. Hidden forms of power in Closed spaces
- vii. Invisible forms of power in Created spaces
- viii. Invisible form of power in Invited spaces

ix. Invisible forms of power in Closed spaces

Each of these combinations can be further combined with the levels of power in the Global, National and Local scales creating a total of 27 different combinations. For the purpose of this research, I will look at the first three combinations of Forms and Spaces of Power relations and what that looks like for my reflection analysis: Visible forms of power in Created spaces, Visible form of power in Invited spaces, Visible forms of power in Closed spaces.

The Spaces of Power dimension is the starting point for understanding power relations. It identifies the different spaces where power is exercised and where power relations are negotiated. The Forms of Power dimension then looks at how power is exercised in these spaces. It identifies the different ways in which power is exercised, including both visible and invisible forms of power. Finally, the Levels of Power dimension identifies who exercises power in these spaces and forms and at what level.

The Spaces of Power dimension provides the context in which power relations are played out. The Forms of Power dimension then identifies the tools or mechanisms used by those who hold power to maintain their dominance. The Levels of Power dimension identifies the actors who exercise power in these spaces and forms and at what level, which is crucial for understanding who holds power and who is marginalized.

By examining the intersection of these three dimensions, we can identify how power is exercised and maintained in different contexts. For example, in a formal space of power such as a government institution, power may be exercised through coercion or the use of force (Forms of Power dimension). The actors who exercise power in this space are likely to be those in positions of authority (Levels of Power dimension), and this can lead to a marginalization of those who do not hold formal positions of power.

Alternatively, in an informal space of power such as a community, power may be exercised through persuasion or social pressure (Forms of Power dimension). The actors who exercise power in this space may not hold formal positions of authority (Levels of Power dimension), but they may be able to influence the behavior of others through social norms and values.

Overall, the three dimensions of John Gaventa's power cube provide a comprehensive framework for analyzing power relations in society. They allow us to understand how power is exercised, by whom, and in what contexts, which is essential for identifying opportunities for social and political change.

In context of the workshop:

The Spaces of Power dimension is evident in the context of the workshop, which is a collaborative effort between different organizations and individuals to address climate change. The Karam Foundation and Sumanth and I, as workshop facilitators hold power in this space as we have the resources, knowledge, and skills to organize and conduct the workshop. However, the students also hold power in this space as they are the intended beneficiaries of the workshop. Their participation is crucial for achieving the workshop's objectives.

The Forms of Power dimension is also evident in the workshop, which uses cartooning as an alternative medium of communication to talk about complex global issues such as climate change. The use of cartoons as a tool for communication represents a subtle form of power and activism, as it seeks to persuade and influence the audience's views on climate change through storytelling and humor. Additionally, the workshop also teaches the students about the importance and urgency of climate change, which highlights the use of persuasion and education as a form of power to raise awareness and encourage action.

The Levels of Power dimension is also present in the workshop. The workshop is designed to empower the Syrian refugee students based in Turkey by providing them with the skills and knowledge to communicate about climate change through cartoons. By doing so, the workshop seeks to provide the students with agency and voice, allowing them to exercise power in the larger conversation about climate change. Additionally, the workshop also introduces the students to various cartoonists from Syria and around the world, highlighting the importance of diverse perspectives and representation in the conversation about climate change.

In conclusion, the 'Cartooning for Climate' workshop demonstrates how the three dimensions of John Gaventa's power cube is interconnected and mutually reinforcing. The Spaces of Power dimension provides the context for the workshop, the Forms of Power dimension outlines the tools and mechanisms used to influence and persuade the audience, and the Levels of Power dimension empowers the students to exercise agency and voice in the conversation about climate change.

i. Visible form of power in Created spaces of power

In the context of this workshop, the visible forms of power and created spaces of power of John Gaventa's power cube are related and speak to each other in the following ways:

Visible forms of power can be seen in the impacts of climate change on various populations across the world. The effects of climate change are often more visible and pronounced in marginalized communities, such as refugees and other vulnerable populations. The workshop aimed to make these impacts more visible to the students and teach them about the power structures that perpetuate the problem.

Created spaces of power relate to the workshop in terms of the alternative medium of communication used to address the issue of climate change. By teaching the students how to

draw cartoons and create comic strips, the workshop aimed to provide them with a space to express their own perspectives on the issue of climate change and to create their own narratives. Through this, they were able to exercise their own power and agency in the face of a global issue that often seems beyond their control.

In this way, the visible forms of power and created spaces of power are related and speak to each other in the workshop by highlighting the power dynamics at play in climate change and providing the students with a way to respond and engage with these dynamics in a meaningful and creative way.

ii. Visible form of power in Invited spaces of power

In the context of the 'Cartooning for Climate' workshop, the visible forms of power and invited spaces of power of John Gaventa's power cube relate or speak to each other in a number of ways. The visible forms of power, such as the power wielded by governments and corporations, were talked about in the workshop to teach the students about how they impact climate change and how it affects different populations across the world. The workshop used cartooning as a means to communicate complex global issues, making the impacts of climate change visible to the students.

The invited spaces of power, such as the power wielded by the Karam Foundation and the facilitators on the ground, played a role in inviting the students to participate in the workshop and providing them with the necessary resources and support to do so. The Karam Foundation's collaboration with the workshop organizers (Sumanth and I) allowed them to invite the students to participate in the workshop, while the facilitators on the ground provided them with the necessary support to participate.

In this way, the visible forms of power and invited spaces of power were both necessary for the success of the workshop. The visible forms of power provided the context and material for the workshop, while the invited spaces of power created the opportunity and support for the students to engage with it.

iii. Visible form of power in Closed spaces of power

The visible forms of power and closed spaces of power are not necessarily related or speaking to one another in the context of the workshop. The closed space of power refers to the spaces where decisions are made and power is exercised by a small group, often without the participation or input of others. In this case, the focus is on empowering Syrian refugee students to communicate their ideas about climate change through cartoons, rather than on decision-making processes.

However, it is possible that the visible forms of power, which refer to the ways in which power is expressed and made visible in society, could be relevant to the workshop. Through the creation of cartoons, the students can express their perspectives on climate change and make their voices heard, which can be seen as a form of resistance against the dominant narratives and power structures that often silence marginalized communities. By using cartoons to communicate their ideas and experiences, the students are equipped with a new tool and skill set to make visible the power dynamics at play in the context of climate change and its impacts on their lives.

4.5 Cartooning for Climate Change

The study of comics has emerged as an interdisciplinary field over the past few decades, drawing on insights and methodologies from diverse disciplines including art history, cultural studies, literary studies, and media studies. Comics provide valuable perspectives on history as

a medium for communication and storytelling (Smith & Duncan, 2019). This section explores the potential of cartoons as a participatory framework for decoding complex climate concepts and fostering inclusive climate dialogue.

Comics as a Medium for Communication:

Smith and Duncan's book traces the historical development of comics studies, highlighting how comics have evolved from their origins in popular culture to becoming a recognized form of art and communication. This historical context is crucial for understanding how comics can serve as a powerful tool for conveying complex information, making them an ideal choice for communicating climate concepts especially for climate change activism.

The Participatory Nature of Comics:

One key insight from the book is the participatory nature of comics. Comics engage readers through a combination of text and visual elements, inviting them to actively interpret and reflect on the content. This participatory aspect aligns with the report's emphasis on involving communities in climate discussions. By encouraging readers to decode and interpret climate-related cartoons, planners can create a shared understanding of climate concepts, promoting collaborative solutions.

Fostering Inclusive Climate Dialogue:

'The Secret Origins of Comics Studies' underscores the importance of inclusivity in comics. Comics have the potential to transcend language barriers and engage diverse audiences. This aspect aligns with the report's focus on reaching a wider audience for climate justice actions. Cartoons can be a universal language for discussing climate risks, enabling planners to foster inclusive climate dialogue among communities.

Cartooning's Potential in Climate Communication:

The book's exploration of comics' versatility and expressive power reinforces the idea that cartoons can effectively communicate climate risks. Cartoons can simplify complex information, making it accessible to a broader audience. Moreover, their visual appeal and creative nature can capture people's attention and promote engagement with climate issues.



Figure 84. For 'art versus climate comms sponsored by fossil fuels': Rohan Chakravarty, www.greenhumour.com and Global Resilience Partnership / COP27 Resilience Hub

In summary, 'The Secret Origins of Comics Studies' provides valuable insights into the history, participatory nature, and inclusivity of comics as a medium for communication. These insights align with my research which emphasizes the importance of involving humanity in climate discussions and utilizing cartoons as a framework for fostering inclusive climate action and activism. By drawing from the principles of participation, this research presents a promising

framework for planners to communicate climate risks to communities, promoting creative engagement and united responses to the climate crisis.

Chapter 5: Conclusion: What will I do differently next time?

The 'Cartooning for Climate' workshop series, initiated as a result of the confluence of academic inquiry and a commitment to fostering climate change advocacy, has proven to be a transformative endeavor. The workshops in May and August of 2022, conducted virtually across diverse geographical locations, laid the foundation for meaningful conversations and artistic expressions centered around climate change. As I reflect on this experience and look toward the prospect of future workshops, a comprehensive framework for improvement emerges.

First and foremost, the need for better documentation of the cartoons produced during the workshops is evident. The establishment of a systematic and detailed record of the artistic outputs will not only serve as a valuable archive but also contribute to the envisioned "Catalogue of Climate Conversations". This living catalog, envisioned as a website, stands as a dynamic repository of cartoons created during the workshops, providing a platform for ongoing engagement and dialogue.

Feedback, a crucial component in the iterative process of improvement, should be sought from participants, in this case, both students and facilitators. A well-structured survey, encompassing questions on takeaways, preferences, dislikes, and areas for improvement, will enable a nuanced understanding of the workshop's impact.

To further augment the educational aspect, integrating teaching materials on creating awareness from climate reports such as the IPCC into the workshop curriculum is proposed. This addition ensures that participants not only engage creatively through cartoons but also gain a comprehensive understanding of the factual foundations of climate change, empowering them to communicate more effectively.

Looking ahead, the envisioned version of workshops provides an opportunity to refine and enhance the overall experience. Through thoughtful implementation of the outlined improvements, this report presents a framework designed to amplify its influence on participants, making a significant contribution to the ongoing dialogue on climate change. Planners from various locations can refer to this framework to facilitate community-based workshops in their respective areas.

The collaborative effort between academic exploration and practical application, as exemplified in the 'Cartooning for Climate' workshops, stands as a testament to the potential of innovative mediums for advocacy in fostering meaningful conversations within vulnerable communities.

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Appendix – Key Texts

1. **The Secret Origins of Comics Studies," edited by Matthew J. Smith and Randy Duncan**

The study of comics has emerged as an interdisciplinary field over the past few decades, drawing on insights and methodologies from diverse disciplines including art history, cultural studies, literary studies, and media studies. The book "The Secret Origins of Comics Studies," edited by Matthew J. Smith and Randy Duncan, seeks to explore the historical roots and evolution of this field of study. This literature review will examine the key themes, arguments, and contributions of the book that is most relevant to my study and situate them within the broader context of scholarship on comics.

The book provides a valuable perspective on the history and evolution of comics as a medium for communication and storytelling. This literature review extracts relevant insights from the book to support the research thesis titled 'Cartooning for Climate Change.' The thesis explores the potential of cartoons as a participatory framework for decoding complex climate concepts and fostering inclusive climate dialogue.

Comics as a Medium for Communication:

Smith and Duncan's book traces the historical development of comics studies, highlighting how comics have evolved from their origins in popular culture to becoming a recognized form of art and communication. This historical context is crucial for understanding how comics can serve as a powerful tool for conveying complex information, making them an ideal choice for communicating climate concepts especially for climate change activism.

The Participatory Nature of Comics:

One key insight from the book is the participatory nature of comics. Comics engage readers through a combination of text and visual elements, inviting them to actively interpret and reflect

on the content. This participatory aspect aligns with the research's emphasis on involving communities in climate discussions. By encouraging readers to decode and interpret climate-related cartoons, planners can create a shared understanding of climate concepts, promoting collaborative solutions.

Fostering Inclusive Climate Dialogue:

'The Secret Origins of Comics Studies' underscores the importance of inclusivity in comics. Comics have the potential to transcend language barriers and engage diverse audiences. This aspect aligns with the research's focus on reaching a wider audience for climate justice actions. Cartoons can be a universal language for discussing climate risks, enabling planners to foster inclusive climate dialogue among communities.

Cartooning's Potential in Climate Communication:

The book's exploration of comics' versatility and expressive power reinforces the idea that cartoons can effectively communicate climate risks. Cartoons can simplify complex information, making it accessible to a broader audience. Moreover, their visual appeal and creative nature can capture people's attention and promote engagement with climate issues.

In summary, 'The Secret Origins of Comics Studies' provides valuable insights into the history, participatory nature, and inclusivity of comics as a medium for communication. These insights align with my research which emphasizes the importance of involving humanity in climate discussions and utilizing cartoons as a framework for fostering inclusive climate action and activism. By drawing from the principles of participation, this research presents a promising framework for planners to communicate climate risks to communities, promoting creative engagement and united responses to the climate crisis.

2. Fostering Youth-Enabling Environments: A Participatory Affordance-Capability Framework for the Development and Use of Youth-Engaged Environmental Assessments

by Janet Loebach and Julia Jaffe

Youth participation has become an increasingly important issue in environmental assessments and decision-making. Research has shown that involving young people in decision-making processes can lead to more effective and equitable outcomes, as well as promote their social, emotional, and cognitive development. Janet Loebach's recent work, "Fostering Youth-Enabling Environments: A Participatory Affordance-Capability Framework for the Development and Use of Youth-Engaged Environmental Assessments" (Jaffe & Loebach, 2023), offers a new framework for understanding and analyzing youth participation in environmental assessments. In this literature review, I will examine the key concepts and contributions of Loebach's framework and contextualize them within the broader literature on youth participation in environmental decision-making.

Background

Youth participation has been recognized as a key component of sustainable development and environmental management since the 1990s (United Nations, 1992). The involvement of young people in environmental assessments and decision-making processes has been shown to have a number of benefits, including promoting a sense of empowerment and ownership, increasing the diversity of perspectives and ideas, and improving the quality and relevance of decisions (Arnstein, 1969; Hart, 1992; Reed, 2008). However, youth participation is often limited by structural, social, and cultural barriers, including age-based exclusion, lack of access to decision-making processes and resources, and power imbalances (Chawla & Heft, 2002; Warren, 2005; Franks & Cleaver, 2007).

Loebach's Framework

Loebach's framework offers a new approach to understanding and analyzing youth participation in environmental assessments by focusing on two key concepts: affordances and capabilities. Affordances refer to the opportunities and resources that are available to young people to participate in environmental assessments, while capabilities refer to their ability to access and use those opportunities and resources effectively (Sen, 1999; Nussbaum, 2000). The framework is grounded in a participatory approach that emphasizes the importance of involving young people in all stages of the assessment process, from planning and design to implementation and evaluation.

The framework consists of four main components:

2. identification of affordances and capabilities,
3. analysis of barriers and facilitators,
4. development of strategies to enhance affordances and capabilities,
5. evaluation of outcomes

The first component involves identifying the opportunities and resources that are available to young people to participate in environmental assessments, as well as their ability to access and use those resources effectively. The second component involves analyzing the barriers and facilitators that affect youth participation, including structural, social, and cultural factors. The third component involves developing strategies to enhance youth affordances and capabilities, including capacity-building, resource mobilization, and advocacy. Finally, the fourth component involves evaluating the outcomes of youth participation, including the impacts on decision-making processes, the quality of decisions, and the empowerment of young people.

Contextualization in the Literature

Loebach's framework builds on a growing body of literature on youth participation in environmental decision-making, which has identified a number of key concepts and factors

that influence youth involvement. These include the importance of creating safe and inclusive spaces for young people to participate, the need for meaningful engagement that goes beyond tokenism, the role of education and capacity-building in enhancing youth participation, and the importance of addressing power imbalances and promoting youth empowerment (Hart, 1992; Chawla & Heft, 2002; Franks & Cleaver, 2007; Reed, 2008).

One key contribution of Loebach's framework is its emphasis on the importance of both affordances and capabilities in promoting youth participation. This recognizes that simply providing opportunities for participation is not enough if young people do not have the necessary skills, resources, and support to engage effectively. The framework's focus on analyzing barriers and facilitators also highlights the need to address structural, social, and cultural factors that can limit youth participation.

Another important contribution of Loebach's framework is its emphasis on the importance of a participatory approach. The framework highlights the need to involve young people in all stages of the assessment process, which can lead to more effective and equitable outcomes. This aligns with a growing recognition in the literature of the importance of meaningful youth participation, which goes beyond tokenistic involvement and recognizes young people as active and valued contributors (Hart, 1992; Chawla & Heft, 2002).

Loebach's framework also aligns with broader debates in the literature on participatory approaches to environmental management and decision-making. The framework's focus on identifying opportunities and resources for youth participation aligns with the concept of "participatory mapping," which involves creating maps of the resources and assets in a community to identify areas for action and collaboration (Chambers, 1994). The framework's emphasis on analyzing barriers and facilitators also aligns with the concept of "participatory

rural appraisal," which involves engaging community members in identifying and analyzing the factors that affect their well-being and livelihoods (Chambers, 1994).

Loebach's framework offers a novel approach to understanding and analyzing youth participation in environmental assessments that emphasizes the importance of both affordances and capabilities. The framework's participatory approach and focus on analyzing barriers and facilitators align with broader debates in the literature on participatory approaches to environmental management and decision-making. The framework has important implications for practice, highlighting the need to create safe and inclusive spaces for youth participation, address structural and cultural barriers, and promote capacity-building and empowerment. Overall, Loebach's framework represents a valuable contribution to the literature on youth participation in environmental decision-making and offers a useful tool for practitioners and researchers alike.

3. Creating Better Cities with Children and Youth: A Manual for Participation by David Driskell

David Driskell's book, "Creating Better Cities with Children and Youth: A Manual for Participation," serves as a foundational resource for understanding the principles of participation and engagement among young individuals within the urban context. Driskell argues that young people have unique perspectives on their cities and can offer valuable insights into creating more liveable, sustainable, and inclusive communities. This literature review draws upon key aspects of Driskell's work to support the research which also explores a participatory framework designed to educate and engage the Syrian refugee students in complex climate concepts.

In the first chapter of Driskell's book, he provides an overview of the importance of involving children and youth in urban planning processes. He argues that young people are often excluded from decision-making processes despite being key stakeholders in their cities. This concept aligns closely with the central theme of the report, which advocates for involving youth in climate discussions for collaborative climate justice actions.

Moreover, Driskell's manual emphasizes the need for inclusive decision-making, where young voices are considered, valued, and integrated into urban development initiatives. This principle resonates with the thesis's ambition to communicate climate risks to communities, highlighting the importance of involving marginalized communities, including youth, in climate action.

Driskell's work also provides guidance on creating safe and inclusive spaces for children and youth to participate actively in decision-making processes, which aligns with the report's focus on conducting workshops that foster a conducive environment for decoding complex climate concepts and encouraging dialogue among a diverse audience, especially youth in this case the refugee students.

Additionally, Driskell's book introduces participatory principles like those found in Gaventa's Power Cube, which can be adapted to create a framework for planners to effectively communicate climate risks and solutions to communities. The report draws on Driskell's manual to underpin its proposal for a framework that facilitates inclusive climate action and encourages the active participation of marginalized communities, particularly youth.

Finally, Driskell's emphasis on empowering young people to express themselves and shape their environments aligns with the report's goal of using cartoons as a creative medium for climate communication. By leveraging the power of cartoons, the research aims to engage youth in creative expressions, stimulating their interest in climate change and fostering united responses to the climate crisis.

In summary, David Driskell's "Creating Better Cities with Children and Youth: A Manual for Participation" offers valuable insights and principles that support the development of the participatory framework proposed in the report. This framework harnesses the potential of cartooning to educate and engage Syrian refugee students in climate change discussions, promoting creative engagement, and encouraging collaborative climate action within their unique cultural contexts. Driskell's work underscores the importance of involving youth in urban and environmental discussions, reinforcing the report's call for inclusive climate action and creative engagement.

4. 'Creating Space for Participation: The Role of Organizational Practice in Structuring Youth Participation' by Neema Kudva and David Driskell

The article by Neema Kudva and David Driskell titled 'Creating Space for Participation: The Role of Organizational Practice in Structuring Youth Participation' published in 2009, focuses on the significance of organizational practices in structuring youth participation. The article highlights how various practices can either support or hinder youth participation in different contexts. This literature review aims to provide an in-depth analysis of the article, examining the theoretical and empirical aspects of the study, its research methodology, and the implications of the findings.

Theoretical Framework:

The authors draw on the theoretical framework of organizational practice to examine how various practices influence youth participation. The article argues that organizational practices such as decision-making processes, communication, and leadership styles significantly shape the extent and quality of youth participation. The authors suggest that organizational practices

are structured by social norms and values, which can either facilitate or constrain youth participation.

Empirical Analysis:

The study employs a qualitative research methodology, using case studies of four youth organizations in New York. The authors conducted semi-structured interviews with youth members, adult advisors, and staff of these organizations, and analyzed the data using thematic analysis. The study finds that the organizational practices of these youth organizations significantly influence youth participation in different ways. For instance, the authors find that organizations with more democratic decision-making processes tend to have higher levels of youth participation and engagement. In contrast, organizations with hierarchical decision-making structures tend to restrict youth participation and engagement.

The article thus, emphasizes the importance of involving young people as coresearchers in understanding their local area and supporting them in taking action on a community improvement project of their choosing. It also highlights the significance of collaborating with other project partners and documenting project activities and results. Additionally, the authors discuss the meaning of "participation" and ways to ensure that young people's participation is real and meaningful.

The article has significant implications for the design and implementation of youth programs and policies. The authors suggest that organizations need to be intentional about their practices, designing them to support youth participation. As highlighted above, it calls for a shift in thinking from viewing youth as passive recipients of services to active participants in decision-making and program implementation. The authors argue that youth participation is not only beneficial for young people but also for organizations, as it promotes diversity and creativity in problem-solving.

Overall, the article provides a comprehensive analysis of the role of organizational practices in structuring youth participation. It contributes to the growing body of literature on youth participation, highlighting the need for organizations to intentionally design their practices to support youth engagement. The study's findings have significant implications for practitioners, policymakers, and scholars interested in promoting youth participation in various contexts.

6. Engaging socially vulnerable communities and communicating about climate change–related risks and hazards. The National Academies Press (2022)

Climate change is one of the most pressing issues facing the world today, with potentially significant impacts on human society and the natural environment. The need for effective communication strategies that can engage socially vulnerable communities and effectively communicate climate change-related risks and hazards has never been greater. This literature review analyses the paper "Engaging Socially Vulnerable Communities and Communicating About Climate Change Related Risks and Hazards" (Wilson et al., 2022) in order to identify key themes, theoretical frameworks, and research gaps related to communication and climate change.

Theoretical Framework:

The authors of this paper employ a socio-ecological systems framework to examine how communication strategies can be used to engage socially vulnerable communities and enhance their ability to respond to climate change-related risks and hazards. This framework emphasizes the interconnectedness of social, economic, and environmental systems and the importance of addressing both the social and environmental dimensions of climate change.

Key Themes:

The paper discusses a number of key themes related to communication and climate change. One of the most important themes is the need to tailor communication strategies to the specific needs and concerns of socially vulnerable communities. The authors argue that effective communication must take into account the cultural, linguistic, and socioeconomic diversity of these communities, as well as their unique experiences and vulnerabilities.

Another important theme is the role of trust and credibility in climate change communication. The authors argue that effective communication must be based on trust and credibility, which can be enhanced by engaging with community leaders and stakeholders, establishing clear lines of communication, and providing accurate and transparent information.

Research Gaps:

While the paper provides a comprehensive review of the literature on climate change communication and socially vulnerable communities, there are several key research gaps that need to be addressed. One of the most significant gaps is the lack of research on the effectiveness of different communication strategies for engaging socially vulnerable communities. More research is needed to identify the most effective communication strategies for different types of communities and to understand the barriers that may prevent effective communication.

Another important research gap is the need for more research on the social and psychological factors that influence climate change communication. For example, more research is needed to understand how people process and respond to climate change-related information, and how this information can be framed in ways that are most effective for different audiences.

The paper "Engaging Socially Vulnerable Communities and Communicating About Climate Change Related Risks and Hazards" provides a valuable contribution to the literature on climate change communication and socially vulnerable communities. The authors provide a

comprehensive review of the literature on this topic and highlight the importance of tailoring communication strategies to the specific needs and concerns of socially vulnerable communities. However, there are still several key research gaps that need to be addressed in order to develop more effective communication strategies that can engage and empower socially vulnerable communities to respond to climate change-related risks and hazards.

6. The Power Cube Explained by Luttrell et al.

In recent decades, the concept of power has gained increased attention in various fields of study, including political science, sociology, anthropology, and international relations. John Gaventa's Power Cube Structure provides a useful framework for analyzing power structures and relationships. This literature review aims to provide an overview of the Power Cube Structure Analysis, its key concepts, and its applications in various fields of study using the article titled 'The Power Cube Explained' (Luttrell et al., 2007).

General overview of Power Cube Structure:

The Power Cube Structure Analysis, developed by John Gaventa, is a conceptual framework for analyzing power structures and relationships. The Power Cube is composed of three dimensions: spaces, levels, and forms of power. Spaces refer to the arenas or sites where power is exercised, such as the state, civil society, and the market. Levels refer to the different levels of power, including the local, national, and global levels. Finally, forms of power refer to the ways in which power is exercised, such as economic, political, and cultural power.

The Power Cube is a tool that helps individuals understand the different forms of power and how they are expressed in various spaces. The article explains that "spaces" can be virtual or physical areas where interactions take place, such as web-based discussions or parliamentary consultation meetings. The Power Cube distinguishes between three degrees of power: visible

power, hidden power, and invisible (internalized) power. Visible power is negotiated through formal rules and structures, while hidden power focuses on the actual controls over decision making and how certain powerful people and institutions maintain their influence over the process. Invisible (internalized) power operates by influencing how individuals think of their place in society and why some are prevented from questioning existing power relations.

The Power Cube Structure also provides several key concepts that are useful for analyzing power structures and relationships. These include power asymmetry, power relations, power resources, and power holders. Power asymmetry refers to the unequal distribution of power between different actors or groups. Power relations refer to the relationships between actors or groups based on their relative power. Power resources refer to the sources of power, including economic, political, and cultural resources. Finally, power holders refer to the individuals or groups who hold power in a given context.

The concept of power has long been a central concern of political and social theory and is particularly important in the context of social change and development. The paper seeks to provide a more nuanced and comprehensive understanding of power relations in the context of development. The purpose of this literature review is to analyze the paper "The Power Cube Explained" (Luttrell et al., 2018) in order to identify key themes, theoretical frameworks, and research gaps related to the concept of power in development.

Theoretical Framework:

The Power Cube is based on a theoretical framework that draws on the work of scholars from a range of disciplines, including sociology, political science, and anthropology. The framework emphasizes the multiple dimensions of power relations, including power over, power to, and power with, and argues that power relations are not fixed or static, but are shaped by the broader social, political, and economic context.

Key Themes:

The paper discusses a number of key themes related to the concept of power in development. One of the most important themes is the need to recognize the multiple dimensions of power relations, and the importance of understanding how power operates at different levels, from the individual to the global.

Another important theme is the role of power in shaping development outcomes, and the need to understand the ways in which power relations can either enable or constrain development efforts. The authors argue that a more nuanced understanding of power relations is essential for identifying and addressing the root causes of poverty, inequality, and social exclusion.

Research Gaps:

While the paper provides a comprehensive overview of the Power Cube framework and its potential applications in the context of development, there are several key research gaps that need to be addressed. One of the most significant gaps is the need for more empirical research on the ways in which power relations operate in specific development contexts, and how they influence development outcomes.

Another important research gap is the need to develop more effective methods for assessing power relations, and for identifying the ways in which power operates in different contexts. The authors suggest that the Power Cube framework can be a useful tool for addressing these research gaps, but that further work is needed to refine and adapt the framework for use in specific contexts.

The paper "The Power Cube Explained" provides a valuable contribution to the literature on power relations and development and highlights the need for a more nuanced and comprehensive understanding of power relations in the context of development. The Power Cube framework offers a promising approach for addressing these challenges, but further

research is needed to refine and adapt the framework for use in specific contexts, and to identify the most effective methods for assessing and addressing power relations in development.