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International Youth White Paper on Climate Change

EDUCATION AND CITIES

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Alberta
Louis Berger

Prologue

This paper is a result of work done by over 4000 students from 13 countries, in partnership with The Centre for Global Education, C40, the Government of Alberta, TakingITGlobal, Louis Berger, and the Berger Charitable Foundation. After weeks of engaging in online activities, national surveys, and climate action projects, students came together to collaborate, through the use of technology, in a Virtual Town Hall to discuss the youth's vision for Education, Cities and Climate Change . From every continent, the youth of the world exchanged ideas, debated alternatives, and ultimately created a document that represents their collective voice. The Virtual Town Hall was the culmination of months of online teamwork, 10,000 hours of student collaboration, over 500 hours of teacher facilitation, and the passion of these youth to engage in an international conversation and have their voices heard.

Student Art

Student artists from around the world submitted art expressions to a Global Gallery that reflected their thoughts on climate change. The writing team has described how art is significant to this paper not as a filler or decoration, but as a way of expressing what the students know. Among a group of people who speak various languages, students found art to be the language that everybody understands, although each piece might have different meanings for each person. In this paper, you will find different art expressions made by students all over the world that have helped the writers understand the different topics.

Participant Countries

- São Paulo, Brazil - Colégio Magno
- Edmonton, Canada - Queen Elizabeth High School
- Lima, Peru - Colegio de Ciencias
- Jakarta, Indonesia - SMA Labschool Cibubur
- New Delhi, India - The Shri Ram School
- Monterrey, Mexico - ASFM
- Greater Accra, Ghana - SOS -Hermann Gmeiner International College
- Nairobi, Kenya - St Austin's Academy
- Ptuj, Slovenia - Gimnazija Ptuj
- Alberta, Canada - ACLYN
- London, England - Reach Academy Feltham
- Los Altos, USA - Bullis Charter School
- Bogotá, Colombia - Gimnasio Los Caobos
- Beijing, China - Beijing National Day School

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"The people, the people are who have the power to kill or keep the Earth alive, and we are all in this."

~ Fabrizio, Peru

Introduction

Climate change problems did not start with the large corporations of the world and national governments. Climate change started with people whose daily choices fed their power, production, and their popularity. It is going to take those same ordinary people to mitigate climate change. We, the youth of the globe, challenge cities, governments, schools, and individuals to adopt our effective ideas to combat climate change in creative and innovative ways. Through mitigation and adaptation we have the capability to overcome climate change.

Youth will possibly play the biggest role in how the present and future societies address climate change, and so we - the youth representatives from Brazil, Canada, China, Columbia, Ghana, India, Indonesia, Kenya, Mexico, Peru, Slovenia, the United Kingdom, and the United States of America - believe that more youth should be involved in discussions surrounding climate change, and be a crucial part of finding solutions. As our surveys indicate (see Appendix), we believe that we as citizens can have an impact, but we do not see our governments taking steps to address climate issues - and we would like to see a change. While acknowledging the inherent complexities, through the themes of equity and inclusion, education and updated curriculum, infrastructure, project based learning, and social media and communication, youth have become climate action leaders both locally and globally today.

Environment - and what we are doing to it, Jeon, Kenya

I. Equity and Inclusion

All cities around the world must recognise their place in creating and implementing an equitable response to climate change. This means that every city and government around the world is responsible for mitigating and adapting to climate change in proportion to their own impact on the climate and the contexts in which they live.

Action points:

- **Climate change conversations and action must address the barriers faced in cities and schools.**
- **Climate change conversations must include the opinions of all people and communities in our cities.**
- **Governments must meaningfully include youth in city decision-making.**
- **Climate change policies must benefit marginalized populations.**

Climate change conversations and actions must address the barriers faced in cities and schools. In cities and schools, there are barriers that restrict how some people are represented when addressing climate issues, including gender, ethnicity, and socio-economic class. We are aware as we write that many students around the world are not able to contribute to this climate conversation, despite how they may be addressing climate issues in their contexts, and that their contributions may lead to different answers. At the city level, the voices of youth are often not heard, ignored, or not taken seriously because youth are not seen as credible participants. Compounding the issue, schools in low-income areas tend to be more vulnerable to climate change because they do not have the infrastructure to adapt to natural disasters, and are increasingly impacted as the strength and frequency of natural and climatic disasters grow. This forces some students to stay home from schools that are flooded or impacted by immense heatwaves. Even when a student may want to address climate change, they may be focused on ways for their family to survive. We believe that cities and schools must take extra steps to include these populations.

Global Warming Equity, Lemi, India

Climate change conversations must include the opinions of all people and communities in our cities. Conversations about climate change are often limited to a few privileged groups of people. Unfortunately, this means that the majority of populations do not have equitable access to information or a recognized voice regarding these issues. Some cities or towns may not have reliable and consistent internet access, limiting access to accurate and up to date data on climate change. At the same time, some of these communities might hold traditional and local knowledge that helps these people adapt to climate change in their own ways, yet may be ignored by researchers and policy makers. As examples, in Bangladesh, villagers are creating floating vegetable gardens to protect their lands from flooding, while in Vietnam, communities are helping to plant dense mangroves along the coast to diffuse tropical-storm waves. It is unfortunate and dangerous that local knowledges and adaptations to climate change may not be recognized as valid by individuals and institutions. Therefore, we must draw these communities into global conversations on climate change.

"To contribute, we need to act and not stay in chairs just talking about the issues. We need to talk about solutions that can not only help with our own country's problems, but also solutions that can help the whole world."

~ Pedro, Brazil

Governments must meaningfully include youth in city decision-making. There are multiple ways that governments can collaborate with youth. To begin, it is imperative that all levels of government establish effective youth councils with representatives that reflect the diversity of their youth populations, and publicize these councils among schools. Councils can be a platform for youth to have their voices heard by the local community along with city and national officials. To make the youth voice more credible, we support paid internships for youth in government positions, as well as government support of action projects for youth. For instance, Shauna, a student from Calgary, Canada, worked with the government to create funds for solar panels on schools. We believe that students in every city must have opportunities like this.

"Climate change issues must be tackled in a way where all individuals are engaged to solve the problem and contribute daily. Our communities' institutions must be the ones making a change first - they must be a good model so that others can follow"

~ Julia, Canada

Climate change policy development must benefit marginalized populations. If governments and schools empower and enable youth participation from all parts of the city and all types of schools, climate conversations will consist of more critical opinions and points of view. It is important to overcome inequity through collaborative actions that teach and listen with marginalized groups as equals. When all populations are included and valued, solutions are more likely to be equitable, scalable, feasible and robust, by limiting negative impacts on vulnerable populations.

Complexities

In making these recommendations, we are aware that a multitude of solutions will be required to adequately address the climate crisis. In fact, solutions for a problem in one place may inadvertently result in a negative consequence somewhere else, even within a single community. This must be taken into account when trying to resolve climate issues; every solution requires an iterative approach.

II. Education and Updated Curriculum

Action points:

- **Climate change must be integrated into the whole school, all grade levels, and be taught cross-curricularly.**
- **Schools and cities must work together to develop and use spaces for students to collaborate with other students, members of their communities and cities, and experts in the industries related to climate change, in order to find and implement viable means of addressing this issue.**
- **Schools must prepare students for climate disasters and involve young people in developing disaster readiness responses.**

Climate change learning and action must be integrated into the whole school, at all grade levels, and be taught cross-curricularly. To engage students, climate change is a topic that must not only be integrated into science classes, but into all aspects of student learning. For example, students could explore climate change through mathematical word problems, discussing articles related to climate change in Language classes, or using Fine Arts classes to promote climate justice campaigns. We can take inspiration from Ghanaian artist Økuntakinte who creates art pieces from e-waste to reduce the volume of garbage burned up in his city, Accra. What students learn in school will allow students to address climate change through multiple angles. Moreover, older students must also learn to act as mentors to students in younger grades to offer advice and encourage them with hope. All of these unique integrations also hold opportunities for students to connect their climate learning to their cities and local communities, as we outline in more detail below.

Schools and cities must work together to develop and use spaces for students to collaborate with other students, members of their communities and cities, and experts in the industries related to climate change, in order to find and implement viable means of addressing this issue. School is not just a place of learning, but of creation, and collaboration feeds innovation. In creating a collaborative engagement space within schools, students are better able to become directly involved in actions about the issues at hand, and develop and implement real life solutions. As they develop real life solutions, students can apply them in their schools to build greener communities. Furthermore, schools must meaningfully involve individuals from diverse communities. We believe that actively including minority groups and individuals will allow students to gain a broader understanding of the impacts of climate change, thus developing their abilities to find and implement solutions that address the needs of everyone.

In Between the Haze and the Sky, Justin, Macao

"People are constantly looking for ideas and solutions on how to live with problems they are facing...but instead they need to learn not how to fight water but how to live alongside water."

~ Taja,, Slovenia

Schools must prepare students for climate disasters and involve young people in developing disaster readiness responses. Solving our climate change challenges is a relatively long process - it might take years, or even decades, as there are no universal or quick-fixes. So it is important for schools to teach students how to respond and cope with droughts, floods, and heavy rain. For instance, people living in areas such as Mumbai, where floods are common, should be taught the basic procedures to be able to survive them. Furthermore, young people must be involved in developing disaster readiness responses that make sense for them, for adapting to climate change is as equally important as solving it.

Complexities

Critics of climate change education say it is a form of propaganda. Due to these widespread prejudices, there can be resistance to integrating education on climate change in schools. However, with the increasing frequency of climate tragedies like the 2015 46°C heat wave in India that killed 2,500 people, we cannot let ignorance limit us any longer. In this context, we believe that education through real life data and facts is not creating a false reality for students - it is especially necessary in the era of alternate facts. Education about climate change is not indoctrinating children, but empowering them with accurate information and data to think critically, enabling them to generate their own questions, critiques, and responses.

"Climate change is not an ideology, but it is the reality."

~ Paola, Mexico

"Create spaces for students to talk about, create, and invent responses to climate change and the environment."

~ Anthea, Ghana

III. Infrastructure

"Create spaces for students to talk about, create and invent responses to climate change and the environment" - Anthea, Ghana

Action points:

- **School infrastructure must enhance and support student learning.**
- **School infrastructure must become more sustainable and eco-friendly.**
- **Governments must offer financial aid to support and implement green school infrastructure and ensure the neighborhoods around schools support climate education and climate-friendly practices.**

School infrastructure must enhance and support student learning. Teaching students about using renewable energy to run our schools or making use of public transport and cycling infrastructure are some of the first steps to linking our knowledge to real life applications. However, unless cities and schools actually make use of innovations like solar energy or offer school buses, educations falls flat. We believe that our schools must be living buildings that are net zero, with features such as moss walls, green roofs, recycled structures, and natural lighting. Such buildings can be used as learning vehicles and encourage sustainable lifestyles amongst students. For example, in Gimnasio Los Caobos school in Colombia, students carried out a project with the objective of finding a way to collect rainwater for irrigation of their school orchard. This challenge was given to tenth grade students to become aware that water is a fundamental natural resource and must be preserved. These students are providing an example for children of lower grades and are transforming the infrastructure of the school to become more sustainable.

Global Warming Infrastructure, Victor, Kenya

School infrastructure must become more sustainable and eco-friendly. We believe that restructuring school infrastructure to include green spaces and natural lighting will result in improved student learning, attendance, and mental health. Fresh air from plants and the use of natural lighting will decrease stress and anxiety that arise from climate instability and raise alertness and concentration. In addition, the colors of different plants have a positive impact on student wellbeing; for example, the color green relaxes students' minds allowing for more active thinking and the development of new ideas.

Governments must offer financial aid to support and implement green school infrastructure and ensure the neighborhoods around schools support climate education and climate-friendly practices. It is the responsibility of governments to provide the necessary funds to implement green infrastructure within schools, and to ensure that the physical structure of schools support student learning. The government can provide two kinds of support: experts who work collaboratively with students to develop revised infrastructure plans, and funding to implement these plans. Governments must also mandate school cafeterias and stores to provide climate-friendly food. In addition, cities must make sure that there are safe walking routes, bus lanes, and cycling lanes for students to use near the school; this will ensure that climate-friendly practices are incorporated into students' daily life. In these ways, schools and their surrounding neighborhoods may be used as models for other buildings and communities throughout the city. In implementing these recommendations, cities must provide for all neighborhoods and schools equitably.

Day without Cars vs A Normal Day in Bogota, Juliana, Colombia

Complexities

We recognize that making changes to school and city infrastructure is very challenging. Adapting a city to the suggestions that we have made may come with a lot of pressure from the general public who may resist changes. For instance, while a city may desire to increase the size of their bike lanes, finding space to do so may result in reducing the size of the car lanes, which may not be received positively by the public. Furthermore, factors such as racial issues, city size, caste system, gender roles, and cultural norms may make changing the infrastructure of a city challenging. Altering infrastructure is not simply a matter of altering buildings, as neighborhoods are also shaped by histories, cultures, and social issues that make it difficult to adopt these changes. Yet we believe that cities must work to address, not run from, these issues.

IV. Project Based Learning

We have called for our curriculum to be updated so that it includes climate change, but it is not enough to simply learn about these topics and problems. We must learn how to act on climate change and develop practical solutions that will aid our cities and communities, develop our knowledge, understanding, and skills by working on projects that will enable us to investigate, tackle, and respond over a prolonged period of time. One way we can do this is through project based learning, which gives students a chance to roll up their sleeves and do something to address climate change with the ultimate goal that student projects become a reality.

Action points

- **Our education systems and curriculum must expand beyond simply imparting climate change knowledge, to developing practical skills of negotiation, creativity, critical thinking and reasoning, to empower youth to take action through project based learning.**
- **Cities must support opportunities for learning to expand beyond the classroom through projects that involve collaboration with other stakeholders.**

Our education systems and curriculum must expand beyond simply imparting climate change knowledge, to developing practical skills of negotiation, creativity, critical thinking and reasoning, to empower youth to take action through project based learning. The outmoded method of passively learning facts is no longer sufficient to prepare students. Adapting to an complex and shifting issue such as climate change requires innovative thinking and creative approaches. Through project based learning, students go beyond the textbook to develop practical skills to mitigate current and future challenges through real world experience. In researching, discussing, analysing, planning, and doing hands-on work, students will generate their own ideas and develop critical thinking skills that will help them address real life situations. Furthermore, students will develop their own agency and collaboration and communication skills by interacting with people from other communities and schools. Having this type of connection across communities and schools can help develop skills that may not be formally developed through existing curriculum.

Be Responsible, Nashita, Indonesia

Similar to our curriculum recommendations, project based learning must be cross-disciplinary, directed towards all grade levels of students, with increasing complexity as students mature. First grade students, for instance, can start with small activities such as making their own recycling bins. As students advance, they can develop increasingly complex innovations that can be presented to governments or companies who can financially support their ideas, giving them resources for realisation and scaling.

"Schools are a place to practice climate citizenship because they are the centre of every community."

~ Helena, United Kingdom

Cities must support opportunities for learning to expand beyond the classroom through projects that involve collaboration with other stakeholders, such as NGOs, industry, universities, and policy makers - both locally and internationally. Working together with school and community partners will help students broaden their ideas about climate change, learn from current research, come up with contextual and effective solutions, and contribute to a community's unique assets. Furthermore, these collaborations will help students take individual and/or collective action, building bonds in their communities, and allowing them to share their ideas with the public. Cities, community partners, and schools must commit to meaningful and long-lasting collaboration, in order for projects to reach their transformative potential.

Complexities

The implementation of PBL will require commitment and participation from cities in order to address inequities in access and opportunities. PBL is resource intensive, and it requires financial support, participation, networking, and supplies, especially as youth initiate increasingly sophisticated projects that involve layers of community participation. We therefore request monetary and in-kind support from city governments, who should be motivated to invest in the future of their communities. Youth have great ideas such as designing and creating media campaigns, establishing community gardens, and installing green energy projects. However, they are not able to implement them due to the lack of financial and practical resources.

"If school projects were directed towards climate change, then the effort would be so much stronger and the ideas would be so much more unique."

~ Alyssa, United States

V. Social Media and Communication

Social media are online communication channels and platforms that work through global networks based on interaction and content sharing among people. They are uniquely interactive, instantaneously visible, and engaging, especially the most popular youth platforms like Instagram, Twitter, Pinterest, and Snapchat. However, schools and cities are not yet using these platforms to their full potential.

Action points:

- **Schools must teach students how social media can be used to spread awareness about key issues such as climate change.**
- **Schools must help students understand the power of social media as a tool for organizing events and networks in support of climate action.**
- **Schools must acknowledge and be able to educate students to differentiate between legitimate and illegitimate information available on social media.**
- **Cities must use social media as a means of connecting with youth, both to spread climate awareness about what cities are doing and also to hear from youth.**

Schools must teach students how social media can be used to spread awareness about key issues such as climate change. Currently, teachers do not sufficiently address the power of social media, but are instead restricting its use. With the scope of social media expanding every day, it is important that schools educate students how various platforms can be used to spread awareness about climate change. For instance, students could be encouraged to upload photographs of their environmental initiatives on Instagram, to access information about ongoing projects, and to use blogs as a way to express their opinions on climate change. Further, schools could address how social media can be used to share information about climate hazards and disasters, so that youth can immediately access support services when needed.

> "In the global community, you are representing a small portion of the world. Through the connections we make with other global community members, we are able to share information based on our experiences and gain a great understanding of how we are truly all connected."
>
> ~ Shauna, Canada

Schools must help students understand the power of social media as a tool for organizing events and networks in support of climate action. Social media can be used as a platform that not only focuses on spreading awareness, but also acts as a platform that allows students to encourage, as well as participate in climate action. Social media enables active communication between local and international communities, including governments, organizations, schools, and companies.

Social media overcomes some language and literacy barriers that limit the impact of traditional media in many communities, allowing us to expand our networks to more diverse populations. On Instagram, for instance, people's thoughts are often expressed in the form of photographs rather than in the form of heavy text. Additionally, Instagram and Facebook provide automatic translation, allowing messages to be spread further than if they were presented in print form, within a single language.

Additionally, we can use hashtags and surveys to get people's attention and communicate with organizations to spread awareness. From campaigns and flash mobs, reforestation and waste management workshops, social media extends itself to a massive number of people. However, to use it to its full potential, schools must teach students how to use social media effectively as a tool for social engagement and transformation.

Schools must acknowledge and be able to educate the students to differentiate between legitimate and illegitimate information available on social media. Due to the mass number of people on social media from various backgrounds, the information that appears on social media is diverse and personalized. It is necessary for educators to help students determine the validity of the information given by individuals and organizations, considering that some of it indirectly promotes their biased opinions and agendas.

Cities should use social media as a means of connecting with youth, both to spread climate awareness about what cities are doing and also to hear from youth. We are living in a digital era. Thus, cities must use social media to increase youth participation in public matters. Through this communication, the youth can also be made aware of what their cities are doing to combat climate change. Using traditional media such as printed newspapers or televised news fails to communicate with youth on their mediums, which are digital, leaving a gap between policy makers and youth.

Complexities

Schools must acknowledge the limits of social media. Not every country has the same type of social media, making it hard to have an international dialogue; China, for instance, uses Weibo and WeChat, whereas students in other places more commonly use WhatsApp, Instagram, and Twitter. Some countries also heavily censor media, preventing people from accessing certain knowledge contrary to government ideologies. Further, citizens have varying access to social media based on their access to technology, their culture, and peer group, and people of different ages use different types of social media. As a result, there is no one way to communicate with everyone, and it is difficult to create cross-generational conversations. Additionally, trends in social media are always changing, which makes keeping people engaged in addressing climate change difficult. By understanding the limits of using social media, we can learn how to use it more effectively to engage diverse communities and raise awareness about climate change.

"We can use social media to get more people the message of being an environmental activist - that to be one is not as difficult as they might think."

~ Gimnasio Los Caobos, Colombia

Conclusion

We, the youth of the world, believe that climate change is the most critical problem we must address collectively as world citizens, leaving aside our differences.

When referring to climate change, some population are ignored and some are suffering from climate injustice. Governments have the power and responsibility to change their present situation by investing in sustainable projects, giving visible support, and spreading awareness amongst their citizens.

Additionally, our schools prepare us to be the leaders of tomorrow by teaching basic knowledge. However, they do not teach us how to adapt and to have an impact on climate change. This must be taught across each subject, involving interactive project-based activities that will assist students in developing the skills necessary to have more in-depth thinking; and therefore, more in-depth solutions. To facilitate this, schools must teach effective social media use in their curriculums, including how to promote climate change awareness and solutions in order to sensitize people around the globe. However, we must acknowledge the complexities of implementing curricular reform, such as the economic and social barriers facing many schools. Creative and collaborative opportunities involving students, communities, and local governments can and will provide meaningful solutions to diminish the obstacles that prevent us from making these proposals reality.

Climate change is not just a problem that governments must solve; it is a priority that every person must address in their daily activities to gradually address these recommendations. It is easy to talk about climate change and how to solve it, but when it comes to implementation, the challenges and lack of actions appear. So, we now call upon all the policy makers, educators, researchers, and individuals to act, to save our home, Earth.

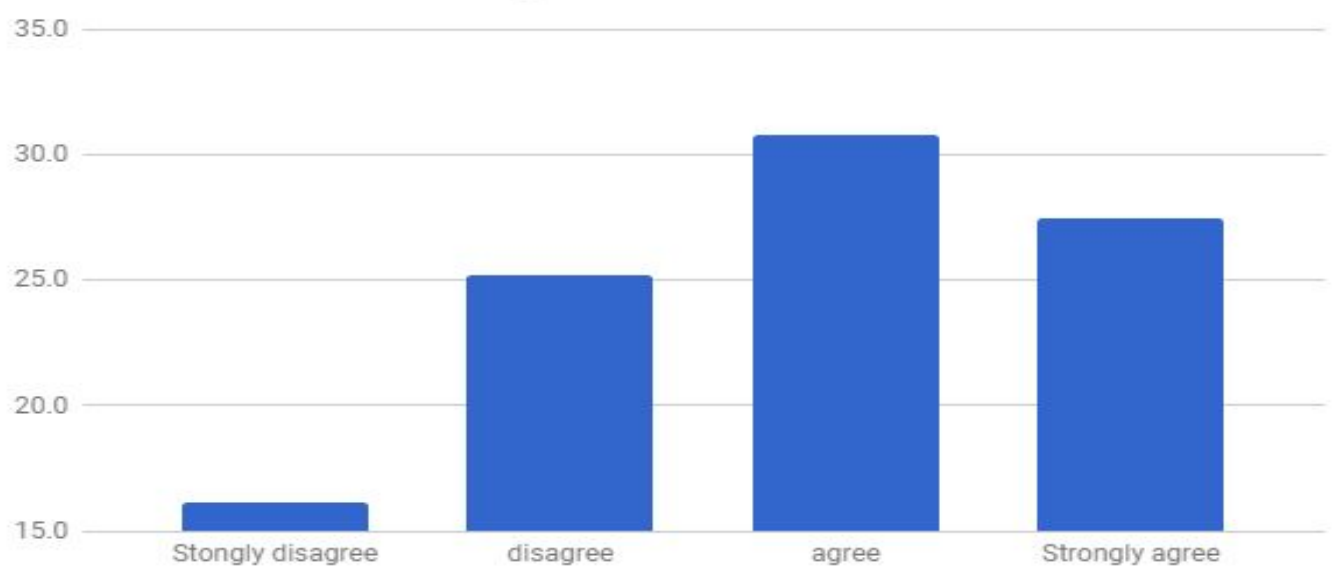
> "I think that the world should not be separated each to others, and more in the issues of the planet. I think that for just one time we all should break the frontiers and do something good, something different, something disinterested, something that is going to save all that live in the Earth."
>
> ~ Fabrizio, Peru

The Student Writing Team in Canada

Appendix: Survey Data

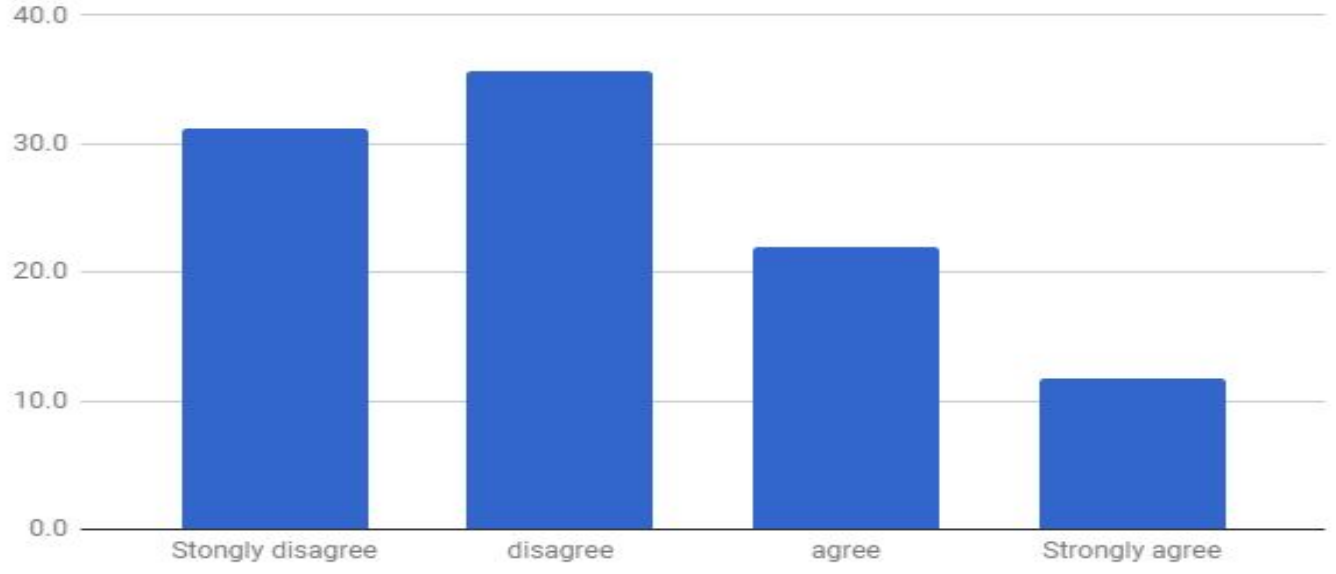
Our survey gathered data 4021 survey respondents worldwide from 12 cities.

I. My actions have an impact on the global climate.



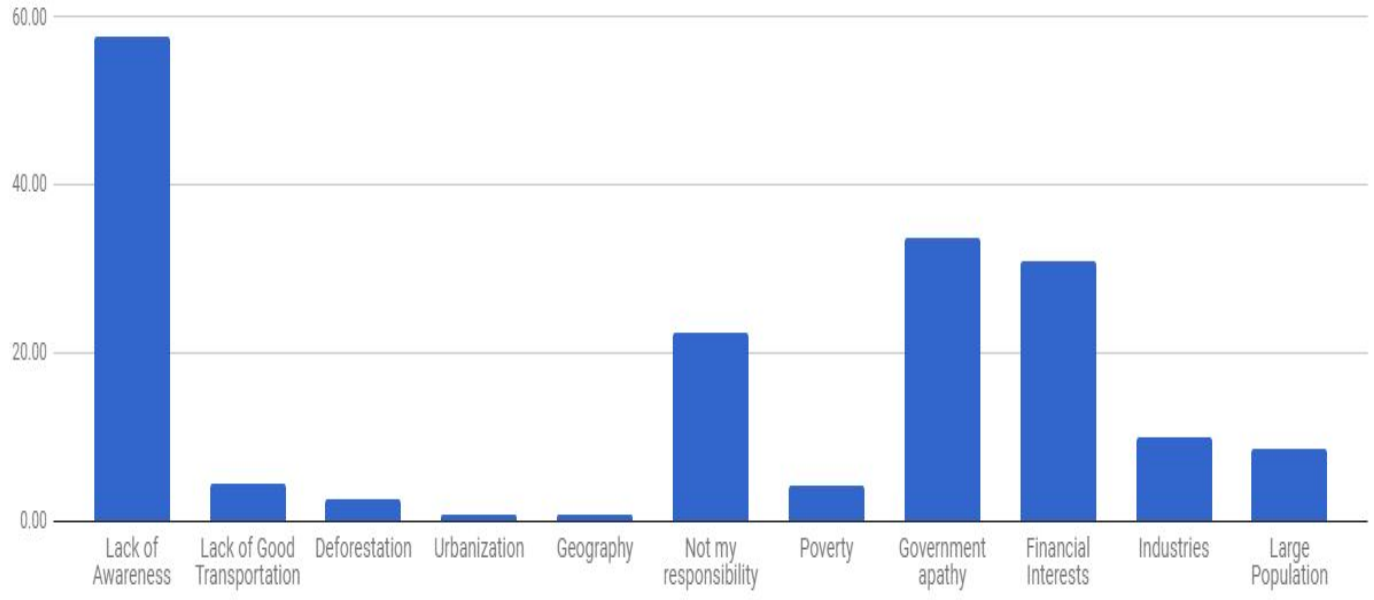
NOTE: We are uncertain whether students believe their individual actions have an impact on the global climate, or whether they perceive their actions as contributing to collective initiatives that impact the global climate. Further research is required.

II. My city is taking effective steps to prevent climate change.



* NOTE: Our survey data does not indicate whether the cities are not in actuality addressing climate change, or whether students are *not aware* of how their cities are taking steps to prevent climate change. Further research is required.

III. The biggest barriers to addressing climate change are:



* NOTE: Comments within the category, "financial interests," most frequently reference the dominance of corporate interests over climate issues in government policy.