ISSUE BRIEF:
Considerations when Designing A Heat Policy for Curaçao Education System

Introduction

What are the potential measures that should be considered when designing a Heat Policy for Curaçao's Education System

By researching the actions of the following six countries: Canada, France, Germany, The Netherlands, Singapore and the U.S.A., on the measures they have taken during heatwaves in relation to their schools, similarities were found among the six countries, and these similarities were taken into consideration when writing the report as key measures. These findings can be put into three different categories or areas of focus: Health and well-being of the students, Infrastructure, and Transportation consequences when school days are shortened.

Health and well-being of the students

The health and well-being of the students is of highest priority as the measures that need to be taken in hopes of maintaining and preventing possible danger and/or harm that can result from a heatwave that could affect students both externally and internally.

Infrastructure

Infrastructure is another area that is important to consider and analyze when thinking of preventative measures, since students spend most of their time in a school building or courtyard. Making certain changes involving school building was seen as a key measure in some of these countries. Heat waves often entail shortening of school days and this can be the cause of various (unforeseen) problems.

Transportation Consequences when school is shortened

As the temperature rises, so does the need for a shortened school day. Transportation is one more area that needs to be taken into account when thinking of shortening school days due to a heat wave. When the number of students increases when the schools close at the same time, so does the number of students that need (public) transportation. If there are not sufficient vehicles and/or if there is not concise planning, these transportation needs can increase the health dangers and safety issues for students.

Issues for discussion

Health and well-being of the students

There have been many recent complaints about the unbearable heat being faced in the classroom. Students are finding it increasingly more difficult to learn under such conditions. Some schools even opt to shorten their school hours. But this will result in students spending less time in the class and therefore learning less. When tackling this issue, safety of the students must be put above all else. Also, to think about is the importance of school itself and how to minimize the loss of learning time and maximize the physical comfort levels in schools. The health and safety of the students and the minimizing of lost learning time must drive other decisions related to the heat.

Infrastructure

As more complaints of excessive heat come in, school infrastructure comes into question. Due to school buildings being made out of mostly concrete and courtyards being asphalted, schools turn into ovens as concrete and asphalt absorb up to 95% of the sun's energy. Due to the absorption of heat in and around the school buildings, learning turns into an impossible task as the heat quickly becomes unbearable. Finding solutions for these problems naturally comes at a hefty price. Thus, finding the balance between affordability and efficiency becomes key. Further, the equality of education must be considered so that all buildings are climatized and provide equal safety for students and staff of the schools.

Transportation Consequences when school is shortened

When school is shortened, ideally students can safely get from school to home as fast as possible with minimal exposure to sun, heat and other dangers. The transportation consequence for students who take the bus is that not all bus stops are close to schools. Meaning they are going to have to commute to the bus stop and must potentially wait before they are even able to get one. Some students must even take more than one bus to get home. This process can take hours. Due to the influx of students leaving school at the same time, there might not be enough buses to accommodate all the students. These conditions create health and safety concerns for the students.

General Policy Recommendation

In the research done for this issue brief there were policies from other countries that should be considered. Germany, for example, has a guiding document titled: “Recommendations for Action: Heat Action Plans to protect human health” which, as the name states, recommends an action plan in cases of extreme heat. These recommendations are based on the World Health Organization (WHO) guidance for compiling heat-health action plans and the results of the Hesse HEAT study (Fulda University of Applied Sciences 2009 - 2012). It would be beneficial for Curaçao to do something similar. This would allow schools to be well informed on what options they have available when facing heat waves. On June 26, 2023, German Federal Health Minister Lauterbach initiated a discussion about a national heat plan with the aim to improve warning and response to heat waves. It is apparent that this European country is working to spread the topic of heat protection more broadly over Germany. The Conference of Health Ministers of the Federal States (GMK) decided to push ahead with the comprehensive creation of heat action plans in municipalities by 2025. This shows that Germany recognizes there is an issue and is quick to tackle it. Seeing as Curaçao is such a small tropical island, a nationwide heat protocol would be beneficial.

Health and well-being of the students

Closing schools should be the last call for action in extreme temperatures and instead we should focus on ways to help students adapt to these conditions. Though the implementation of air conditioning appears to be an easy fix, it is far too expensive to implement in all schools, which would cause discussions of inequality and favoritism.

Some better alternatives could be:

- Shorten school hours: This should only be done if conditions are extreme so as not to take away from the time spent learning.
- Adapted uniforms: In Curaçao It is standard to wear uniforms at most schools, but these uniforms are typically not heat friendly. There should be separate cooler uniforms for when the temperature is high as well as rules and regulations for these uniforms. For example: shorts, dry fit shirts, T-shirts/shirts, hats, etc.
- Ventilation in the classrooms: Most if not all buildings on curacao are made from concrete. This tends to cause heat to get trapped in these buildings.
- Encourage a hydrated diet: Obligatory water breaks, educating students on what kinds of lunch they should pack to stay hydrated and what kinds of foods to avoid, selling hydrating foods at the cafeteria, if there are no water fountains set jugs of water around the schools. These are just some ways to encourage a heat friendly diet.
- Reduce physical activities and eliminate outings during the hottest hours.

In severe cases of heat, lessons can be canceled as an exception and last action, according to the decision of the school management. The students must be looked after by teachers and other staff during teaching downtimes.

In cases of bad weather schools should remain open (if possible) to provide a safe environment for students. The final decision to bring students to school should ultimately reside in the hands of the parent(s) or guardian(s).

Consideration of the health of the student and their concentration during exams should be given. Exams should be postponed in case of severe weather and appropriate accommodation should be provided in hot weather. In any case of hot weather, cooling and hydration accommodation should be standard.

Awareness of students' physical conditions

If students are outdoors, teachers should be aware of medical conditions, such as asthma, diabetes, epilepsy, allergies, medications, or other conditions which may place students at higher risk for heat-related illness. Students should not be outside if the parents have advised the school that their child should not participate in outdoor activities due to the possibility of heat related illness.

Infrastructure

Looking at other countries, it was found that several of them focus on other aspects as well, notably France. As opposed to having a clear policy, they do have measures and recommendations or instructions for such situations instead. The ones that stood out were mainly related to infrastructure.

Some of these measures and recommendations related to infrastructure are:

- Identify the most exposed premises and adapt the organization and use of spaces according to exposure to accommodate students in spaces protected from heat (less exposed or protected facades, green and covered spaces, etc.
- Allow rooms to be cooled by opening windows at night, when possible,
- Limit the opening of windows. Air renewal can be obtained by opening for a short time (between five and ten minutes).

Another example of a country focusing on infrastructure is Singapore, where buildings are integrated with trees and plants. Namely in central gardens, on rooftops, hanging from the facade. They provide shade and reduce the heat absorbed by the building from the sun. The plants also release water into the air as vapor, cooling the area down. They function like a conveyor belt, moving heat from the ground high up into the air.

Along with that they have painted the roofs of some buildings with light-colored reflective paints, which absorb less heat and could reduce the ambient temperature around the buildings, initial studies suggest. A similar program in New York City has covered more than 10 million square feet of rooftops with reflective paints since 2009, reducing the need for air conditioning and the waste heat it generates.

Transportation Consequences when school is shortened

As the weather gets more severe, the school boards will face the choices to either stop school transportation (in some parts or all together) as it becomes unsafe, or delay school opening. And in the worst-case scenario school will close, denying students their right to education. Again, all efforts should be made to keep schools open.

In the case that schools must close, there must be remedies to make sure that there is a bus stop near each school, and in case of reported shortened school hours, more/bigger buses should be running in that area to minimize wait time in the heat. Currently, buses run late or do not run and do not have air-conditioning which is a health danger. Those who get picked up by their parents might still have to wait for the usual time school would end because their parents might still have work and have not gotten a break. This is why even in the event of shortened school hours; school staff should still be present at the very least until school would typically end. And the schools should provide alternative activities for students who must stay at school. There should still be an effort to cool down the classrooms and if available students who cannot leave yet should be moved to cooler classrooms, namely those with air conditioning.

Conclusions

Curaçao's government needs to create and approve a country-wide heat policy for the schools that puts health and well-being of the students as its highest priority to ensure that all students have maximum access to education at school. Consideration to infrastructure and transportation should be driven by the focus on student learning needs. It is hoped that these recommendations, representing students' views, are considered.

This document is the product of research conducted by the Gen-irators, secondary school researchers of the Think To DO Institute, Curaçao, in September-November 2023.

End notes

https://www.education.gouv.fr/recommandations-aux-directeurs-d-ecole-et-chefs-d-etablissement-pour-prevenir-les-effets-de-la-10454
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