MARCH 2024

OUR VOICE, OUR MOVE, OUR HEALTH, OUR SAFETY, OUR CHANGE

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Introduction

THIS PROJECT WAS A COLLABORATION BETWEEN:

The University of Cape Town | Cape Peninsula University of Technology | Bonteheuwel High School
Western Cape Government Department of Health | Global Diet and Activity Research Network (GDAR)
Stanford University's "*Our Voice*" Global Network: Citizen Science for Health Equity.

Our Voice Science Method

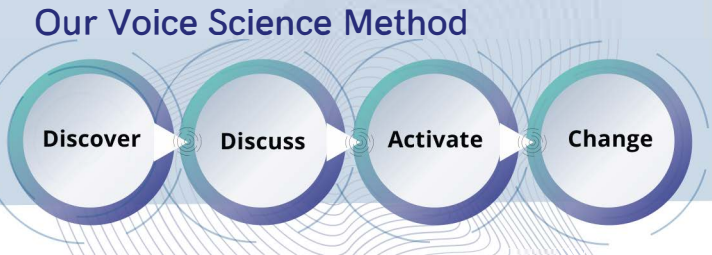

Figure 1:
Adapted from the 4-step Our Voice citizen science model.
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The project was conducted within the school environment and citizen scientists worked with the research team from University of Cape Town and Cape Peninsula University of Technology.

The *Our Voice* citizen science method (Figure 1) which is broken down into different stages and discussed below was adapted for the project.

PURPOSE OF THE PROJECT

To assess the role of adolescents' advocacy in addressing the barriers influencing healthy eating, physical activity, hygiene, and safety within the school environment in high schools in Cape Town, Western Cape, South Africa.

In 2021, eight high school learners from Grade 9, 10 and 11 (13-18 years old) and a staff member in Bonteheuwel High School were recruited to become citizen scientists (non- professional researchers involved in conducting research). The staff member also functioned as the research liaison officer to facilitate communication and support between the research team, the school and the citizen scientists.

Step 1: DISCOVER (2021)

In 2021, the learners were trained to become citizen scientists and on how to use the *Our Voice* Discovery tool, a mobile application to collect data for the project.

In groups, the learners used the *Our Voice* Discovery tool to collect photos and narratives (voice notes or text) of barriers to physical activity, healthy eating, hygiene and safety within the school environment. They collected 19 usable photos and narratives.

Figure 2: Samples of data collected by the citizens scientists

Photo A
"This plot is where boys who carry dangerous weapons sit, making it uncomfortable and unsafe for the others."

Photo B
"This portable toilet is not cleaned, not hygiene safe for learners because the learners go inside the toilet and they could get affected in an unhealthy way."

Photo C
"This is the tuckshop and it is closed.
There is no healthy food being sold even when it is open."

Photo D
"A classroom is in the middle of the squad where children play netball & soccer."

Photo E
"This is very bad for the school, broken doors."

Step 2: DISCUSS (2021)

The photos and narratives were printed by the research team and in a workshop, the learners, guided by the research team, discussed the barriers identified in the photos, sorted them into themes, provided more insights into the photos and narratives and included more barriers.

Thereafter, they suggested solutions to these barriers (Table 1 and Figure 2).

Table 1: Identified barriers to physical activity, healthy eating, hygiene and safety in the school and suggested solutions by the citizen scientists

Physical activity barriers	Suggested Solutions
• Lack of space/fields/equipment for sports • Limited physical education (PE) teachers and learners are not interested • Due to Covid-19 there is no sport • No sports competition • No sport coaches and limited sport varieties • Containers/classrooms in sports spaces	• Remove the container classroom in the sport space • PE needs to be interesting by including activities such as dance, etc • More sporting varieties to be introduced for variation and choices • Form relationships with other schools for competitive sport • Work with community coaches to assist and train learners
Healthy Eating Barriers	Suggested Solutions
• Tuckshop is not available within the school as there is no facility built for it • Feeding scheme has a stigma attached • No healthy food options and water available for purchase • Only snacks are being sold at school	• Learners with the aid of a representative council of leaders to advocate for the opening of a tuckshop in 2022 • Learners should be allocated a space to access the feeding scheme to limit learners looking or judging them • Learners to participate in creating the tuckshop menu for healthy and affordable food options • Learners to advocate for fruit, salad and water availability in the school
Hygiene Barriers	Suggested Solutions
• Toilets are not clean • Water taps and toilets are broken • Water can only be accessed in the bathrooms • Learners smoke cigarettes/dagga within the school • Inadequate sanitisers and soaps in the toilets	• Learners to form a clean up initiative to clean paper/plastics and toilets in the school • Learners to make sure the school committee/management is aware about these issues and seek external help • Hygiene awareness campaigns • Disciplinary committee to be formed to punish smokers, and the consequences to be consistent • Raise funds to get more cleaning equipment
Safety Barriers	Suggested Solutions
• There are electric wires exposed in the classrooms • There are corners that are occupied by troublemakers and learners do not feel safe • Learners carry dangerous weapons to the school • There are no security guards within and around the school despite the school being located in a violent- prone area • Doors have no locks, and windows are broken	• Maintenance committee of staff need to be implemented/hired • Teachers to supervise learners' activities during break time • Thorough screening of learners for weapons • Security guards for the schools should be hired to minimise violence within the school and law enforcement should regularly patrol around the school • The school to initiate Indaba (dialogue meetings) between parents, teachers and learners

Step 3: ACTIVATE (2021)

In 2021, in an advocacy workshop, the citizen scientists, with the help of the liaison officer and research team presented the findings of the data and their suggested solutions to the school staff (Figure 3).

The presentation was well received by the school staff. During the advocacy workshop, the citizen scientists were also presented with certificates of participation and a gift for their time and participation.

The learners choose a project from their suggested solutions to implement for change.

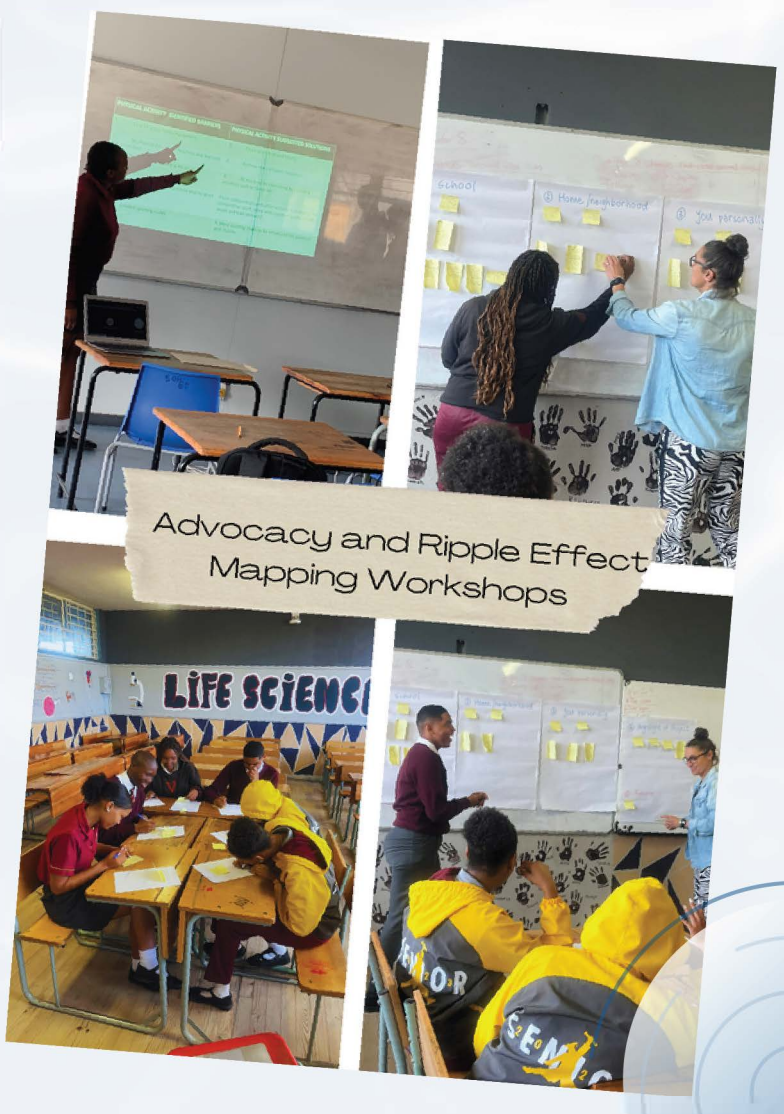

Figure 3: Photos from different workshops involving the citizen scientists (advocacy and ripple effect mapping workshops)

Step 4: CHANGE (2022)

The learners championed a sports day fundraising event as their project to make changes to their sports activities and hygiene in the school with support from the liaison officer, principal, school staff and the research team.

Figure 4 showcases the sports day fundraising event. Learners were creative enough to use what they had to create activities such as the obstacle challenge. They used some of the old and useable school furniture and brought some resources from home.

Figure 4: Photos from sports day fundraising event

Ripple Effects (2023)

IN 2023, THE RESEARCH TEAM RETURNED TO THE SCHOOL TO CONDUCT THE RIPPLE EFFECT MAPPING IN A WORKSHOP.

The ripple effect mapping is the process of identifying the wider impacts of the project, along with any transformation in the school, community or home environments that may have occurred as a result of the citizen science project.

The pictures of changes and the ripple effects as a result of the citizen science project can be seen in Figure 5 and Table 2.

Figure 5: Sample photos of change and ripple effects

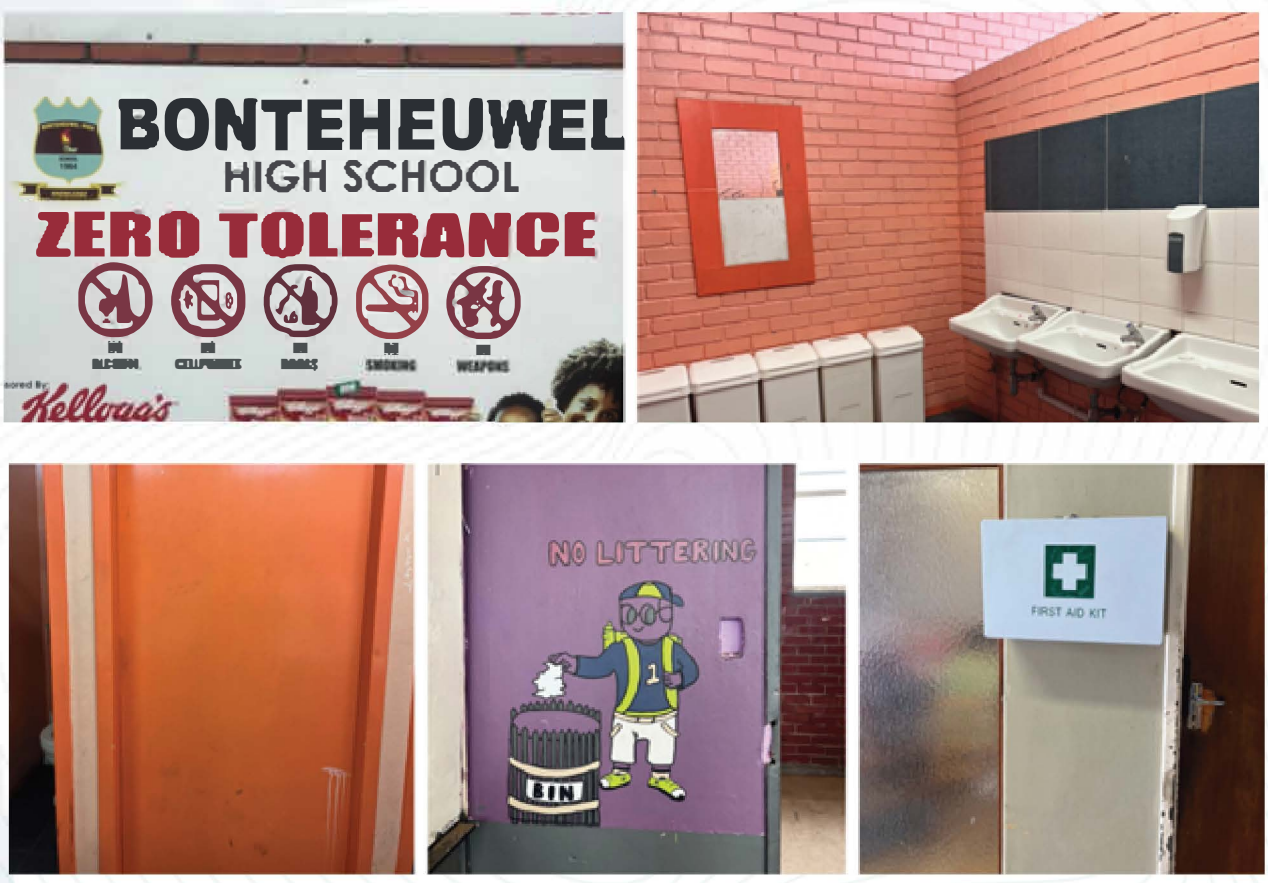

TABLE 2: RIPPLE EFFECTS

SCHOOL ENVIRONMENT

- Improved feeding scheme (food quality and safe and clean space to eat)
- Healthier and cheaper food options in the tuckshop
- More variety of food options in the tuckshop
- Presence of security officers in the school before, during and after school hours
- Improved hygienic resources and environment (sanitary pads, toilet paper and hand washing) soap is always available
- No more violent outburst with the presence of law enforcement officers
- Students feel safer
- Improved sports and active participation
- More physical activity added to the school curriculum
- Cleaner school environment (clean floors and toilet)
- Improved maintenance and repairs in the school (exposed wires and windows are fixed and secured, toilets have doors and working water outlets)
- Safety is being prioritised in the school
- More variety of sports
- Feeding scheme stigma has become non-existent

NEIGHBOURHOOD/HOME

- Improved healthy diet in the home (e.g. eating healthy food like eating fruit and vegetables, and less fatty food)
- Improved family physical activity
- Home is also more hygienic and more consistent cleaning
- Overall home lifestyle improvement
- Improved family participation
- Overall improved family fitness and family togetherness
- Changed positive active family lifestyle

PERSONAL

- Improved knowledge of the importance of keeping a healthy diet and health environment
- Knowledge transfer of how to stay safe and healthy to others
- Improved sports participation and eating healthy
- Improved health due to improved healthy eating
- Improved mental health
- Improved hygiene
- Improved consistency in healthy habits
- Improved well-being
- Improved confidence and happier
- Inspiration to volunteer in the community
- Inspired to share importance of healthy and active living with the family
- New perspective towards change and being a change agent

PROJECT HIGHLIGHTS

- The citizen science project came out positive and became a great benefit for the school.
- The presentation of certification of participation to the citizen scientists during the advocacy workshop.
- New relationships and improved relationships between students and between students and school staff.
- Personal and social improvement, the citizen scientists suggestions were taken into consideration.
- Improved confidence of the citizen scientists.
- Taking photos of things/places.
- Giving the citizen scientists a voice.
- Significant and visible positive changes as a result of the project.
- The project brought about school unity, and there was a shared vision and goal regarding wellness and cleanliness in the school environment.
- The citizen scientists are keen to transfer their advocacy skills.

PRINCIPAL'S NOTE ABOUT THE CITIZEN SCIENCE PROJECT:

"I think what I liked is that we had parents...we had learners, parents of learners in the group that took charge...the parents were called in parents meeting and what we would see is that the parents would also advocate...they could see the changes in their learners.....and that could be also said that we could see the leadership coming up. We could not see it a year or two ago."

CONCLUSION

Children as young as 13 years old can be citizen scientists, and they can advocate and make significant impact to promote safe, active and healthy spaces within and beyond the school, home and neighborhood environments. This project promoted a healthy community within the school and beyond, empowered the citizen scientists and improved the citizen scientists and their family's overall wellbeing.

Thank you for reading!

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