

Chapter 5

Adaptation, Migration, Advocacy.

A Climate Change Curriculum for Out-of-School Children in Badin, Sindh



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5.1 Introduction

There are two core challenges when it comes to designing a non-formal curriculum for out-of-school youth in a community already vulnerable to the effects of climate change. The first is that the curriculum needs to account for the fact that its intended audience has either never attended school or dropped out after completing only a few years of basic schooling, often learning little during those years. The second is that the curriculum needs to do more than help students create an understanding of climate change—it needs to help them figure out how to survive its effects. In this chapter I present a curriculum designed in partnership with *The Citizens Foundation*. I prepared an environmental sustainability unit as part of their pilot “literacy and life skills” curriculum for out-of-school youth in Badin. These youth are between the ages of 10–14. The program will run for 6 months and is slated to begin in January 2020.

Badin is a case study of a vulnerable community, where the population is facing disproportionate threats from the effects of climate change. According to the United Nations, in 2016 the 15 countries most vulnerable to climate-related disasters were the least developed countries, landlocked developing countries, or small island developing states (Chazanoel and Puscas 2019). These countries are all disproportionately impacted by climate change and are the least equipped to cope because of their lack of resources. The curriculum designed for Badin is low-cost and low-resource, making its framework adaptable to other contexts. It is critical to educate children in vulnerable communities not only about the science behind what they are witnessing, but also enable them to strategize and advocate for their own futures.

Since there are few curricula that focus on climate change education for vulnerable communities, this curriculum will test four ways to react to the effects of

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climate change: context, adaptation, migration, and advocacy. The curriculum (see [Appendix](#)) dedicates a month each to these four phases, keeping in mind that the pilot consists of other units, that attendance may be spotty, and that teacher capacity may be weaker than anticipated. The curriculum and lesson plans will be designed and translated into the local language, Sindhi.

The theory of action for each phase of the curriculum is simple: (1) if students understand the concept of climate change and can apply it to the phenomena they see around them, then they will be able to articulate what is happening to their community; (2) if students understand what is happening to their community and practice exercises to protect themselves and adapt to the risks posed by natural hazards, then they will be better able to suggest and implement these strategies in their day-to-day lives; (3) if students understand what is happening to their community and have thought about migration and even simulated it, then they will be mentally prepared to move to a new place should their families have to do so; and finally (4) if students understand what is happening to their community and can articulate it, then they will be able to advocate for their rights.

This chapter outlines the four phases of the curriculum, grounding the design of each phase on evidence from both academic research and programs that have been conducted in similar geographical regions. Firstly though, I review the current state of climate change awareness in Pakistan, the particular risks that Badin faces, why educating out-of-school youth is a particular challenge, and the pedagogical methods used to create a curriculum that would meet the needs of out-of-school youth in this particular context.

5.2 A Shifting Attitude Towards Climate Change

Across urban Pakistan from the biggest to the smaller cities, youth are increasingly cognizant of ways in which climate change can wreck their future. It was this awareness that led to the climate march on 20th September 2019, when thousands of students and civilians marched in more than 32 cities, inspired by 16-year-old Greta Thunberg, and demanding action from the current government, the Pakistan Tehreek-e-Insaf (Jamal 2019). Not long after, the journalist Basil Andrews published an essay about rising temperatures in Karachi, the city with the largest population in Pakistan, and how the built environment exacerbates the heat. “I glance at my temperature meter: 42.1 degree Celsius it reads as the black digits stare out at me in static certainty,” he wrote. “Climate change is here and whether I, whether we, like it or not, it will get hotter. It already has.” (Andrews 2019, page needed).

Since Karachi’s 2015 heatwave, which left over 1000 people dead (Imtiaz and Rehman 2015), there has been a rapidly growing acceptance that rising temperatures are wreaking havoc—Pakistan was, according to the Global Climate Risk Index, the 8th country most affected by climate change during 1998–2017 (Eckstein et al. 2018). Different regions face different risks, ranging from temporary and permanent flooding to an increased risk of natural hazards like cyclones and tsunamis,

both of which will reduce agricultural production and destabilize an already weak economy, potentially creating millions of climate refugees (Nazar 2016).

Moving from the urban centers to the rural areas, the threats become more severe. First, rural economies, which rely entirely on agriculture, are more susceptible to the effects of climate change. Second, education infrastructure is weak in these areas, leaving the population poorly equipped to devise strategies to mitigate the effects of climate change. This is not to say that the population is unaware of the risks they face, but that they do not have the context to understand how they will need to adapt to those risks. It is for this precise reason that this curriculum focuses on Badin, a rural district in Sindh which is experiencing the effects of climate change right now.

5.3 The Risks Faced by the Population in Badin

Badin lies on the coast of the Arabian Sea in Sindh, to the east of the Indus Delta, and about a 3-h drive from Karachi. It sits at the confluence of almost every kind of climate change risk imaginable: at the height of summer, desert temperatures bring both heatwaves and droughts; since it sits on the coastal belt, it is at risk of being swallowed by rising sea levels, as well as being potentially flattened by cyclones; and finally, increased saline flow from the sea is destroying local ecosystems (including land that was used for agriculture, and breeding grounds for fish). These risks are compounded by the fact that Badin has also suffered a human-induced disaster: between 1984 and 1997, the Left Bank Outfall Drain (LBOD) was built to prevent waterlogging and salinity in three districts in Sindh (Mirpurkhas, Sanghar, and Nawabshah). What ended up happening is that a canal included in the LBOD to carry saline drainage to the Arabian Sea ended up flooding the districts located close to the coast, leaving Badin doubly vulnerable (Rao and Maqbool 2014).

The most severe threat Badin is currently facing is salinization. Researcher Hussain Bux Mallah wrote that it was difficult to gauge not just how many people have migrated as a result of this environmental destruction, but where they went, and whether their migration was voluntary. While he points out that the obvious choice for most people is the nearest big city, Karachi, the reality is that most families are assetless and are forced to either remain where they are or relocate to nearby areas that are geographically similar (Bux Mallah 2012). Given the fundamental impossibility, at this stage and with scant research on the topic, of predicting which course of action families will follow, this curriculum includes both adaptation strategies should they choose to stay and migration strategies should they choose to leave.

5.4 Educating Out-of-School Youth

This curriculum was designed to be sensitive to two factors: firstly, the target demographic, youth in Badin, are actively experiencing the effects of climate change and secondly, that this demographic has never attended school before. The district, even without accounting for the effects of climate change is crippled by poverty: 47.9% of children are overweight and the infant mortality rate is as high as 87 deaths per 1000 births. An indication of how broken education access in the district is: the literacy rate is 39%, the enrolment rate is 41%, the rate of primary school completion is 32%, and as many as 46% of school-age children are out of school (Rao and Maqbool 2014).

Most of the literature currently available on educating out-of-school youth, whether academic or in the form of reports from governments or multilateral agencies, focuses on improving their access to schooling and making the transition to schooling more effective. In order to understand the needs of the target demographic I interviewed Hina Saleem, the Head of Literacy and Life Skills at *The Citizens Foundation*, who is designing and implementing the pilot curriculum for out-of-school youth of which this unit on climate change is a part. “When we met the kids, they weren’t even talking to us,” she said, while describing a field visit she herself had undertaken to Badin. “We need to work on discipline, forming routines to go to school. Motor skills, as well. How to hold a pencil, how to work with it.”

Our conversation illuminated the pedagogical methods that were needed to make this curriculum a success. Project-based learning was a great place to start, since it does not require literacy and builds social skills: students who have never been to school have no literacy skills and struggle to socialize in the collaborative and conversational ways of conventional schooling. In addition, looking at the science of learning more broadly, it was critical to designing a curriculum that was reasonably paced, that would not overwhelm students, and that would present learning to them as something fun instead of tedious.

For example, according to the research-based “gold standard” model for project-based learning from the Buck Institute of Education, effective projects pose a question or challenge (“what it is ‘about,’ if one were to sum it up – is [it] a problem to investigate and solve, or a question to explore and answer” and that reflection is a critical final piece of an overall project (“reflection can occur informally, as part of classroom culture and dialogue, but should also be an explicit part of project journals, scheduled formative assessment, discussions at project checkpoints, and public presentations of student work” (Larmer 2015)). During the first phase of the curriculum, students complete a simple science experiment to understand the three major risks their community faces—these are framed as questions instead of as topics (“Why is it hot?” “Why does the sea flood?” and “Why is salt bad for plants?”). “Circle time” is built into the end of each lesson plan, to facilitate time for reflection, but also to include more space for students to develop their oral language and social interactions skills.

The curriculum was designed with attention to some of the findings of the science of how people learn. For example, one of the core cognitive principles governing learning is that students best learn new concepts by referring to ideas they already know—for this reason, the materials proposed to help students understand climate change in their particular context are based on what they can physically see around them in their community. The curriculum also moves slowly and allows time to revise concepts, since another core cognitive principle is that students’ understanding of new ideas can be inhibited if they are confronted with too much information at once (Deans for Impact 2016).

A review of the existing literature on climate change education, helped develop a narrative arc for the curriculum. A review of climate change education strategies by Martha Monroe et al. (2017) makes a helpful distinction between teaching “the facts” of climate science and “actions” to mitigate climate change—the authors distinguish between educators who “believe their job is limited to conveying factual information about climate science” and others who “intend to build critical thinking skills and help youth understand the sources of conflict about climate change or prioritize problem solving skills as they help youth conduct local projects to mitigate and adapt to climate change” (pp. 791–812).

The four phases of the curriculum are designed to move students from understanding to action. While the first phase focuses on helping students understand the facts of climate change, the remaining three focus on project-based activities that help them live with and survive the impact climate change is having on their communities. Studies have suggested that project-based learning fosters higher engagement and academic gains, even in disadvantaged populations (albeit in a context vastly different from Badin) (Halvorsen et al. 2012). Drawing inspiration from approaches designed by non-profits like Aflatoun, which run entrepreneurship programs for children in rural Rwanda (Aflatoun International 2019), or Dream a Dream, which works with out-of-school children in India (Dream a Dream 2020), this project-based curriculum encourages students to draw on their community for research and understanding, and work collaboratively to develop adaptation and survival strategies for their own futures is the best way forward.

Phase 1: Context

The first step of the curriculum is helping students understand what climate change actually is, rather than instructing them about climate change as it is occurring around the globe, the introductory unit of the curriculum focuses on three phenomenon that impact Badin directly and that the students will have observed around them: overheating in the summer, floods because of sea levels rising, and the lack of productivity of the land because of salinization. This is largely in line with the overarching philosophy driving climate change curricula: for example, the US-based National Center for Science Education (2016) describes four best practices for climate change education that can be considered universal: “Make it local, make it human, make it pervasive, make it hopeful.”

In order to communicate the three phenomena to students, the curriculum relies on two strategies: a pictorial flip-book, and a simple experiment.

An innovative way to explain the impact of the greenhouse effect, flooding, and salinization to students in Badin is to use a pictorial flip-book—an idea inspired by Save the Children’s “community strategies flip-book”, which was an intervention to encourage community efforts towards literacy (Bowd et al. 2010). Each page contained an action parents and children could complete to support the development of reading skills. While our flip-book will not have actions, it will have a brief sequence of images through which students can piece together the story of climate change with guidance from their teachers. The teachers will, in turn, be supported via their mobile phones—an increasingly popular teacher professional development intervention in low-resource settings (Burns 2013). The combination of the picture flip-book and live audio support for teachers will allow the community to collectively understand and articulate what they are seeing play out around them. The physicality of the flip-books would also allow students to take the stories home and share them with their parents or siblings who aren’t enrolled in the life skills program.

For example, for the lesson on the flooding, the first image will show a mountain with a bright sun over it, the second will show a river flowing down the mountain towards the sea at its foot, and the third will show the sea overflowing and inundating the land. These images will be bold and will not be accompanied by any text, but will give students a chance to discuss among themselves what the images mean. This bolsters their communication skills, while also allowing them to grapple with concepts that will be cemented through a follow-up experiment. The experiment will physically demonstrate the concept they explored in the flipbooks—in this case, it will demonstrate how a block of ice melting raises the level of water in a bucket.

Phase 2: Adaptation

To understand how the citizens of Badin should cope with the effects of climate change, it is helpful to look at the literature produced by BRAC, the Bangladesh-based international development organisation thought to be one of the largest in the world. The risks faced by Bangladesh are similar to those faced by Badin. Two-thirds of the country is less than five meters above sea level, which means that saltwater intrusion from sea level rise renders, as it does in Badin, agricultural workers unemployed while also creating a situation of food insecurity (BRAC Climate Change Programme, 2017).

BRAC’s mission in Bangladesh is to prepare people to adapt and respond to the effects of climate change, while also mitigating future impacts through sustainable development practices (BRAC Climate Change Programme 2017). There’s a distinction between adaptation and mitigation—adaptation is helping people to cope with the effects of climate change, while mitigation is equipping them to prevent further effects. In the case of Badin, where the effects are already being felt, it makes sense to focus on adaptation. That said, it’s important to note that not all adaptation strategies can be taught to 10–14 year olds. For example, one adaptation strategy in Bangladesh has been to invent salt-tolerant rice varieties for coastal areas where soil salinity is high. Other adaptation strategies are easier for 10–14 year olds to adopt, like constructing housing with raised plinth levels and using elevated

latrines, both to cope with flooding. Both of these strategies provide opportunities to engage in tactile and collaborative project-based learning—teachers could give students rudimentary construction materials, like paper and playdough, and present them with the challenge of building a house to withstand flooding. They could do the same exercise with the elevated latrines, this time using the lesson to explain the importance of limiting the spread of diseases.

In an example lesson, students engage in the design thinking process to construct levees along a river bank. The challenge is that they are given different materials and they have to decide on the materials and design that will lead to the strongest levee. The levee exercise builds skills that will be directly useful—a case study by Oxfam International, which summarizes the findings from community-based research in Badin in 2009, recommended strengthening the lining of existing water ponds, constructing embankments to protect fields from seawater intrusion using pressed earth, and constructing emergency flood shelters (Oxfam International 2009).

Using design thinking and project-based learning to teach adaptation strategies has value beyond familiarizing the students with new skills and the ability to work collaboratively towards a common goal. It builds their leadership skills by encouraging them to think of themselves as climate change ambassadors in their community, especially since the exercises follow a unit where their conceptual knowledge was built. They have, through units 1 and 2, had both the experience of leadership and the vocabulary to articulate the cause they are leading. A publication by the United Nations Joint Framework Initiative on Children, Youth, and Climate Change (2013), titled *Youth Action on Climate Change: Inspirations from Around the World*, contains more case studies about adaptation and disaster risk reduction programs for vulnerable communities, that have been designed specifically to provide climate leadership opportunities for youth. The report makes the case that youth involvement in climate change adaptation is critical for the entire community's survival.

There is potential that once the program wraps up, the students will use what they have learned to be active leaders in their community—a productive follow-up program would be one where they partner with elders in their community or with development organizations or non-profit organizations working in the area on a real project. There are examples of programs where youth in vulnerable communities are given leadership roles on projects. The *United Nations Joint Framework Initiative on Children, Youth, and Climate Change* (2013) publication contains a case study detailing a collaboration between the United Nations Environment Programme and the Municipal Council of Xai-Xai City in Mozambique in January 2010. Here, the goal was to help the community adapt to topsoil erosion resulting from higher rainfall, and one project was building barrier walls that held soil in which resilient plant species were placed. Another case study, this time in collaboration with the El Mouddaa community in Morocco, involved youth building rock dams to stem the flow of floodwater. These are both inspirational projects for what could happen in Badin once this pilot curriculum concludes.

Phase 3: Migration

There is a real possibility that the citizens of Badin will be forced, at some point, to migrate elsewhere. Preparing students for migration can take one of two forms: the first is to prepare them emotionally, and the second is to prepare them practically.

To prepare emotionally for migration, students can engage in simple activities that give them a chance to preserve memories and stories through community interviews and a time capsule. Migration causes various levels of mental distress, beyond just physical displacement—as Dinesh Bhugra (2004) writes, migration includes “experiencing at first a sense of loss, dislocation, alienation and isolation, which will lead to processes of acculturation.” (p. 135). In order to help children cope with these potential feelings of loss, what if one lesson of the curriculum was the creation of a time capsule to help them remember who they are and where they came from? This could involve filling a shoebox with meaningful objects, photographs of their home taken with a disposable camera, and maybe even drawings about what and who they love most.

On a more practical note, moving to a new place—either a neighboring rural district or to a big urban center—requires both confidence and resourcefulness. One way to prepare students for navigating a new home, especially when their social skills are limited, is to play a scavenger hunt-style game where they work individually to navigate an imagined landscape through a pictorial map, learn how to convey information reliably, make decisions, and interact with new people.

Phase 4: Advocacy

For the final phase, it is important to teach students how to advocate for themselves—not just so that they can demand better resources and negotiate if they have to migrate, but because they should be able to conduct public protests or speak to local authorities if need be. One of the reasons why Badin has suffered as much as it has is because of the human-induced disaster of the Left Bank Outfall Drain.. During this phase, students will learn how to negotiate, how to speak publicly in front of a crowd, and how to move an audience through basic theatre.

Theatre has actually proven to be a successful pedagogical strategy in rural communities in Pakistan. The self-funded and Karachi-based Pakistan Fisherfolk Forum (PFF) use theatre as an advocacy tool in rural communities, drawing on traditional songs and folklore to raise awareness about issues such as shortages of water for agriculture, frequent floods and droughts (reference needed). In an interview with Reuters in 2015, Shafqat Aziz, a food security expert with Oxfam Novib, said the plays were empowering and motivated communities to ask government representatives for policies that addressed food security. “The awareness drives affected communities to a decision-making position and this is where they try to come up with effective solutions for tackling climate change,” he said (Saeed 2015).

Given its popularity in rural communities, it will make a fun final lesson to have a community theatre challenge for the students—this will also double as a pleasant way to test them on the concepts they learned through their pictorial flip-books and science experiments in Phase 1 of the curriculum. Students will also have to work in bigger groups than in their previous exercises, which means that they will have to

work harder to lead and collaborate. The final unit is both a way to assess whether they have retained concepts taught earlier, but also whether they are able to collaborate and communicate, as covered in Phases 2 and 3 of the curriculum.

5.5 Conclusion

Through drawing on creative project ideas like pictorial flip-books, constructing models of latrines and rock dams, and creating time capsules, it is possible to translate competencies that are serious in their implications (disaster management, migration strategies) in ways that make for a learning experience that encourages both curiosity and enjoyment. It is impossible to think about climate change without also thinking of virtually every other variable in a community: climate change is inherently tied to shelter and sustenance, and it disproportionately impacts the differently abled, children, women, and the elderly. A curriculum for out-of-school youth in a community already vulnerable to climate change is an opportunity not only to develop adaptation and migration strategies, but also to subtly start enabling a new generation to own their future.

Appendix: The Curriculum

This four-phase curriculum has been designed to last 4 months, with a month dedicated to each phase. This is assuming that only one lesson is taught per week. Each phase can also last a week, if lessons are taught each day—this would make it a month-long curriculum. The timeline is deliberately flexible, to allow it to be adapted to different programs and unexpected changes in schedule. Below is an overview of the curriculum, outlining the objective and strategy of each of the four phases. A sample of a lesson plan for each phase follows.

Phase 1: Context

Objective: To understand the concept of climate change in relation to the three biggest risks to the local community: overheating, flooding, and salinization

Strategy: Use flip-books to develop a narrative around what is happening and experiments to understand the science behind events

Phase 2: Adaptation

Objective: Engage in hands-on projects to understand how to adapt to changes in the environment—these will also familiarize students with the principles of design thinking and build social skills via group work

Strategy: Create small-scale projects for students to learn how to put strategies to adapt to the effects of climate change into action

Phase 3: Migration

Objective: Think about the emotional cost and resilience of climate change migration through community interviews and time capsules; build self-resiliency for a life of change; prepare to adapt to new situations with ingenuity and flexibility

Strategy: Lean on the community to build a “bank of memories”, draw maps, and create a time capsule (these will also build interaction skills and drawing skills); design a game to simulate arriving in and navigating a new place

Phase 4: Advocacy

Objective: Amplify human stories in an effort to learn how to articulate issues faced to non-community members. This will also develop public-speaking skills and build general confidence

Strategy: Use speeches and theatre to get students to both revise concepts learned in earlier phases and to articulate their problems with clarity and confidence

Phase One: Understanding Climate Change

Title of Lesson: Why does the sea flood?

Idea: What causes the sea to overflow and flood the village?

Objectives (Understanding): To understand how the effect of heating from Lesson 1 (“Why is it hot?”) causes ice in the ocean and on the mountains to melt. To understand why melting ice causes sea levels to rise. To understand why a rise in sea levels causes a flood.

Objectives (Skills): Discipline and patience while the teacher demonstrates the experiment.

Important Vocabulary: Heat | Ice | Melt | Flood

Materials Needed: A shallow glass dish or bowl | Cold water | Ice cubes | A marker; Pencil; Paper | A makeshift stove to heat the water

Lesson Structure

Introduction	Explain that ice can be found in two places: On the mountain tops and in the sea. When it gets hot, this ice melts. The melting ice causes floods. Connect these concepts to the pictorial flip-book by asking the students to look at the images and revise the discussion they had during the previous lesson. Explain that you will now demonstrate to them how the ice melts and causes floods.
Activity	<ol style="list-style-type: none"> 1. Take the shallow dish and fill it halfway with water. 2. Put the ice cubes in the dish. Immediately after, mark the level of the water. Explain that this is the regular sea level. 3. Allow the ice cubes to melt naturally. Mark the new “sea level”. 4. Now repeat the experiment by filling the shallow dish halfway with water, putting in ice cubes, and marking the level of the water. 5. This time, instead of letting the ice melt naturally, heat it by holding the dish above the makeshift stove. Mark the new “sea level”. 6. Compare the marks of the post-melting “sea level” when the ice melted naturally compared to when the ice was heated.
Reflection	Ask students what was different between both the experiments. Keep prompting them without providing the answer. Once they identify that the second time there was heating involved, ask them whether more heat from the sun will cause more flooding. Wait for them to say yes! They should come to this conclusion on their own.
Assessment	Once the experiment is over, bring out the pictorial flip-books once more. Have the students look at the pictures. See if their understanding has become more clear after the experiment. (This should also be a measure of the experiment’s success as a teaching strategy.)

Phase Two: Adaptation

Title of Lesson: How can we protect ourselves from floods?

References: Sciencing “A Flood Experiment to Do for Children” <https://sciencing.com/flood-experiment-children-10025793.html>

Idea: What can we do before a flood comes to protect ourselves from its effects?

Objectives (Understanding): To understand that construction efforts, particularly using certain materials, can limit the damage caused by flooding.

Objectives (Skills): Engage in the design thinking process in a very elementary way (asking questions, designing, testing, and iterating); learn to work collaboratively in groups.

Important Vocabulary: Flood | Levee | Wall | Material | Construction | Protect | Safe

Materials Needed: A shallow box | Modeling clay | Popsicle sticks | Card paper | Small jug | Water | Small toy houses, made of either wood or plastic

Instructions: Set up the exercise by building a village inside each box: use the modeling clay to create a surface covering the base of the box and then dig a “river” in the middle. Fill this river with water.

Lesson Structure

Introduction	Unlike the previous lesson where explanations were offered, with this lesson do not provide any background or information. Let curiosity get the better of the students. Divide the students into groups of 3–5. Give each group one of the “villages” complete with a river with water in it.
Activity	<ol style="list-style-type: none"> 1. Give each group a set of toy houses and ask them to stick them in by the “banks” of the river. 2. Now tell them a big flood is going to come and show them the jug filled with water. Before the flood comes though, they have to build a wall to protect the houses from the water. 3. Hand out popsicle sticks, card paper, and more modeling clay, but provide no further instructions. 4. Let the students build “walls” to protect their “houses” from the “flood”. 5. Once they are done, go around and “flood” each “river” with water from the jug. Have each group watch and judge which “walls” are the strongest.

Reflection	Ask students which “walls” they thought were the strongest. Ask them why. Ask them whether they think the material used makes a difference. Then move into a social-emotional discussion. Ask them whether their homes have been destroyed in a flood previously. Ask them whether their families did anything differently after the incident. Ask them whether they are scared of floods. Ask them whether the experiment changed the way they think about protecting against floods. Is there anything they will do differently from now on? Will they share what they learned with their families?
Assessment	Once the experiment is over, ask students what else they can do to prepare for floods. The design thinking process will hopefully have inspired them to think outside the box. Note who, if anyone, comes up with an idea different from what was discussed and shared (walls and levees).

Phase Three: Migration

Title of Lesson: The “New Place” Game

Idea: Building navigation and social skills so that students can help their families settle into a new home in a new place, should they be forced to migrate.

Objectives (Understanding): To understand that moving to a new place requires being resourceful: this means being aware of one’s surroundings but it also means actively seeking new information.

Objectives (Skills): Learn how to navigate by reading a pictorial map; learn how to relay information reliably; learn how to make decisions when confronted with options; and learn how to interact with strangers.

Set-up A map with three icons placed in a rectangle (one of a medicine bottle, another of a bus, and another of a person). As shown in the map, students need to go to each of the three stations as demonstrated by a set of arrows. At the first station, they are told a set of symptoms and they have to ask the “pharmacist” what medicine best fits those symptoms. They then have to decide whether or not to follow the pharmacist’s advice. At the second station, they are given a destination and they have to ask the “station master” how to get to that destination. The Stationmaster will give them a set of three different options with three different prices and route times—they then have to decide which route is the most economical. Finally, they have to go to the third station, where they have to “meet” their new neighbour who will ask them personal questions about themselves (age, where they have come from, what they want to be when they grow up...).

Reflection This is not intended to be as intense a lesson as others. The point of this exercise is to get students to think about the challenges they may face in a new place and how to navigate those responsibly, by thinking through the information they receive and communicating clearly and effectively. It also builds core skills like reading a map and relaying information reliably. As a reflection at the end of the exercise, ask the students which of the three stations they found most challenging or intimidating, and what they would do differently if they had to repeat the exercise.

Phase Four: Advocacy

Title of Lesson: Community Theatre Challenge

Idea: To test whether students have retained the concepts taught in Phase 1 and whether their collaboration and communication skills have improved as a result of the activities covered in Phase 2 and Phase 3.

Objectives (Understanding): To demonstrate a basic understanding of one of the three concepts covered in Phase 1.

Objectives (Skills): To collaborate with others in terms of assigning roles and directing an elementary dialogue-reliant production, and to communicate effectively in delivering ideas.

Set-up A makeshift stage demonstrated only by a rug or even a rectangle of land chalked out with a border.

Lesson Structure

Introduction	Divide students into three groups—and given each one the following prompt: “Why is it hot?” “Why does the sea flood?” and “Why is salt bad for plants?” Tell them that they have to come up with a brief skit or play around their topic. Explain that they can be creative and need not repeat what they remember from their pictorial books or the experiment directly.
Activity	1. Let students spend half the lesson preparing their skit. 2. During the other half, stage all three skits.
Reflection	Use this opportunity to refresh concepts if one of the groups conveyed information that could have confused the others. Congratulate the students on their performances, and ask them how they felt about it and whether they enjoyed it.
Assessment	Take notes while students are both preparing and performing as to who is speaking, who is leading, and who is doing. See if their confidence and communication has improved.

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