

# Educating children for generational behavioural change towards climate adaptation in New Zealand

## THE ISSUE

Addressing climate change requires a transformation across generations; it is not a problem that can be resolved overnight. A lack of adequate action may result in a child currently living in Aotearoa New Zealand, facing an increased likelihood of severe climate-related events throughout their lifetime (Ministry for Environment [MfE], 2018). Examples of the climate projections are shown in figure one.

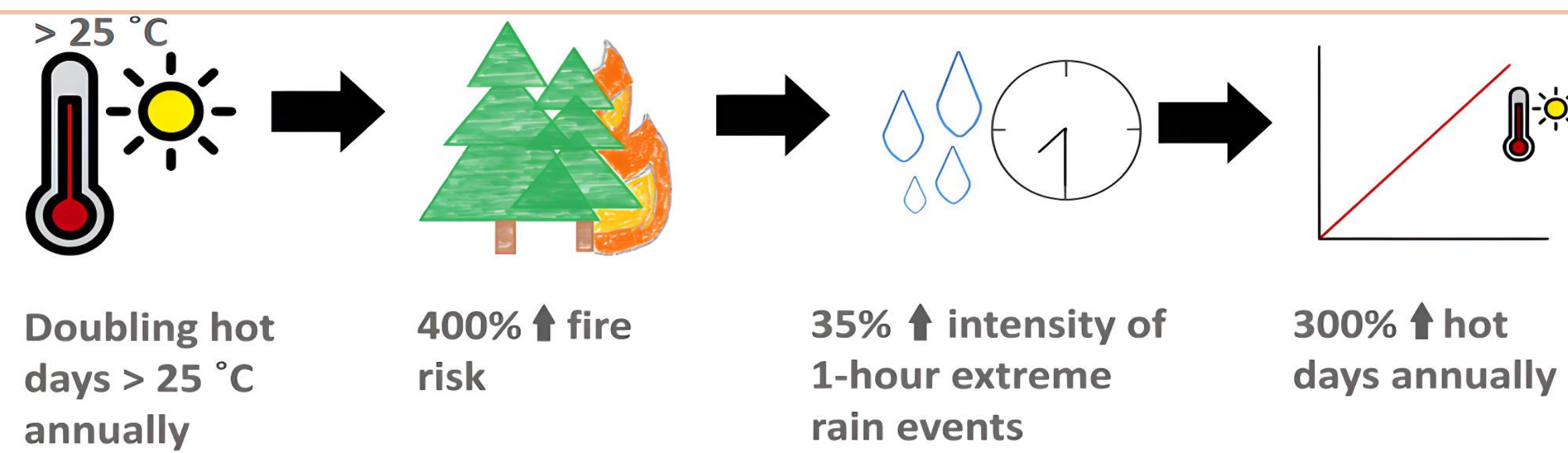


Figure 1: Climate Projections for Aotearoa New Zealand. (D O'Shaughnessy, 2024)

## THE IMPORTANCE

2022 was the hottest recorded year in Aotearoa New Zealand, closely followed by 2021 and 2023 (National Institute of Water and Atmospheric Research [NIWA], 2024). Figures three and four show the projected impacts from the changing weather patterns being observed already. Over the past five years, there has been a noticeable rise in the intensity and frequency of weather events. The occurrence of declared States of Emergency has increased by more than 300% in the last decade compared to the previous ten years (National Emergency Management Agency, 2024). A recent study conducted by NIWA found climate change contributed to a 10% increase in the total rainfall during Cyclone Gabrielle in February 2023, particularly during the storm's most intense parts, suggesting climate change significantly exacerbated the resulting flooding (Stone et al., 2024).

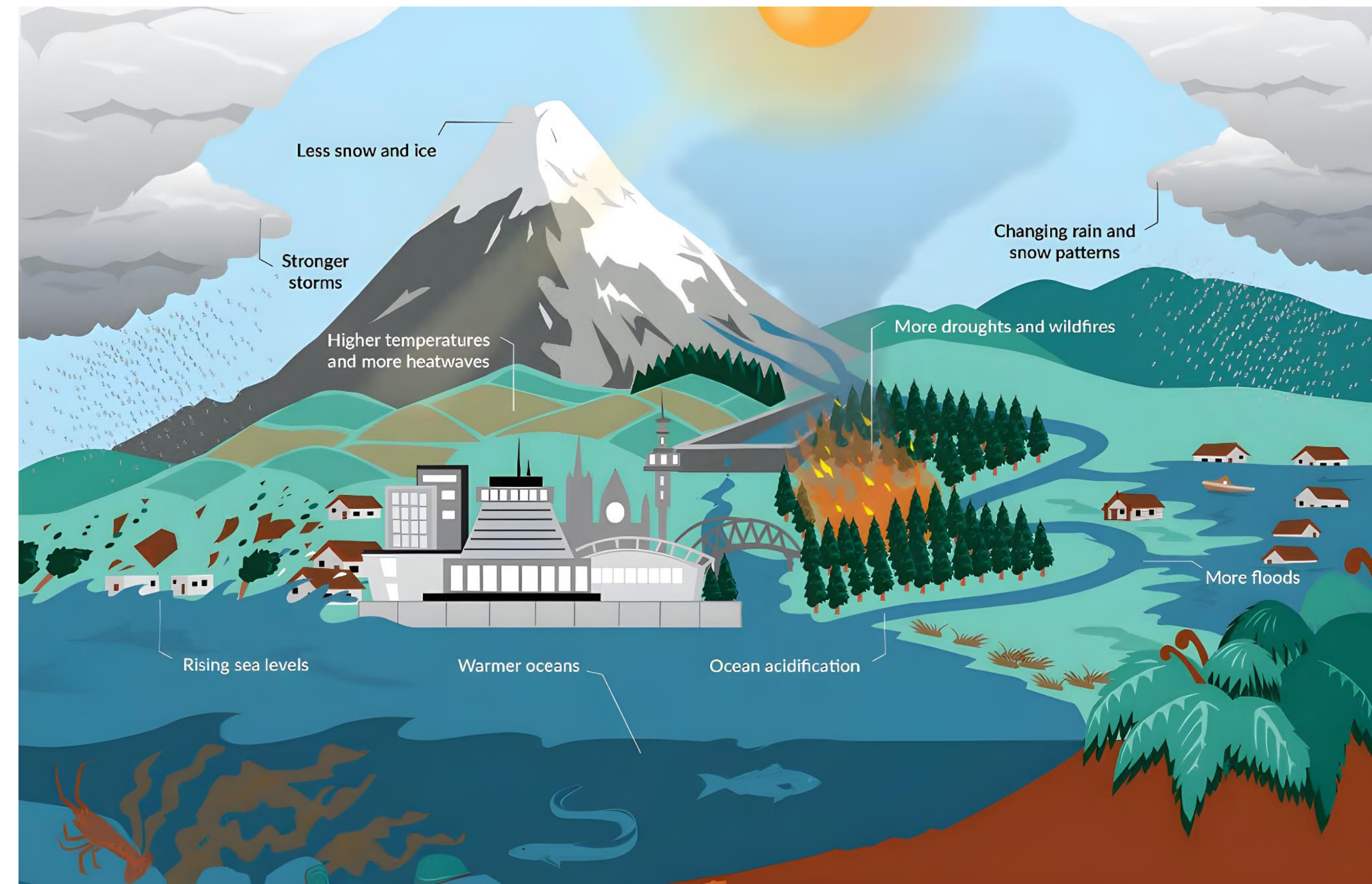
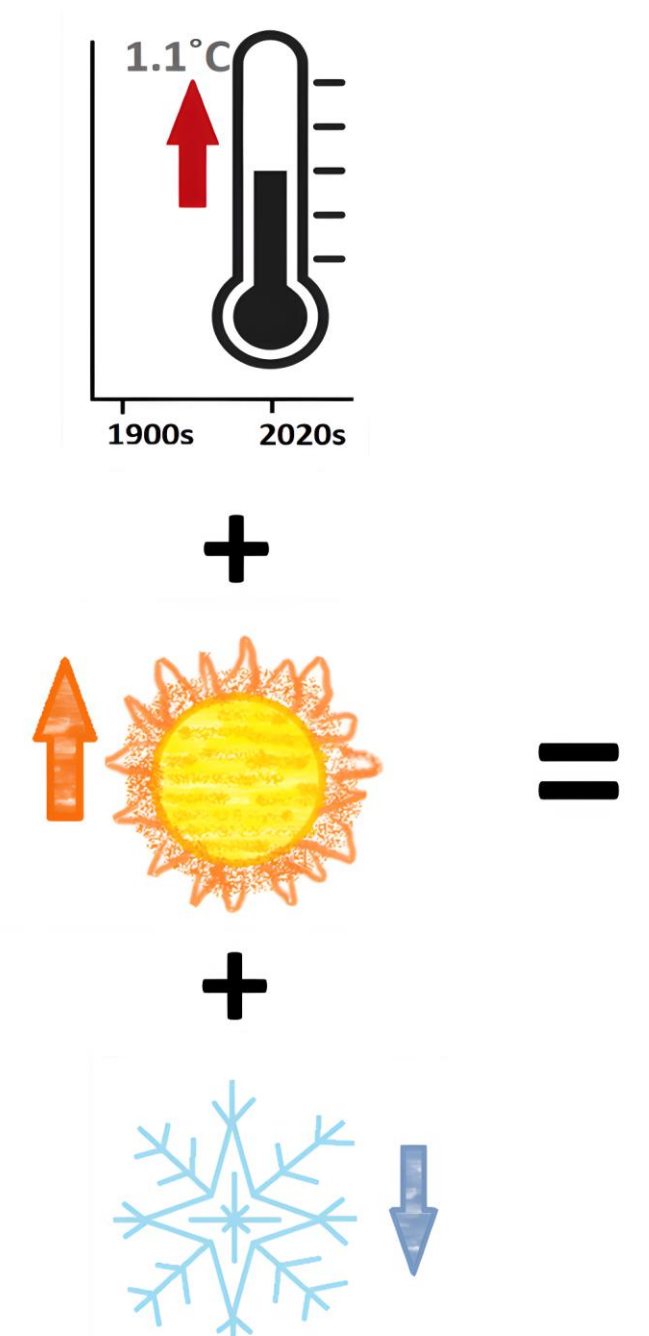


Figure 4: Projected impact of climate change on Aotearoa New Zealand. (MfE, 2022)

The Climate Change Commission produced a document titled 'Advice to the New Zealand Government on its first three emissions budgets and direction for its emissions reduction plan 2022 – 2025' (Climate Change Commission, 2021). The document emphasised the need for a shift in behaviour towards climate change. Feedback received during the consultation process showed people wanted to see climate change education made compulsory.

Mandating climate change within education in the New Zealand curriculum would support individuals and communities to make informed choices and effectively manage their risks. It would also educate future generations within the science community, private sector, and local and central government on the importance of climate change adaptation. This initiative would empower them to integrate adaptation strategies and considerations into their professional practices and decision-making.



Figure 2: Aotearoa New Zealand's first National Adaptation Plan. (MfE, 2022)

Figure two shows Aotearoa New Zealand's first National Adaptation Plan. It identifies three goals which underpin the long-term adaptation strategy. Compulsory climate change education in schools in New Zealand could be a successful way to achieve two of the goals.

Goal 2: to "enhance adaptive capacity and consider climate change in decisions at all levels – this means helping people, institutions and systems to adjust to climate change by building their capacity to respond"

Goal 3: "strengthen resilience – ...building capacity for learning transformational adaptation."

## FINDINGS

Global examples of approaches focusing on children in Disaster Risk Reduction and climate change adaptation demonstrate children can effectively communicate information about climate risks (Treichel, 2020). They have a higher ability to absorb and adjust to new concepts and changes. Children are in a great position to influence changes in behaviour that can result in adapting to climate change and support resilient development to climate impacts (Children in a Changing Climate, 2009).

Despite climate change being a significant challenge our children will face, it is not mandatory nor consistently taught in our schools (Profiles Enhancing Education Reviews [PEER], 2021). Aotearoa "New Zealand's decentralised network of self-managing schools allows for a significant level of autonomy, diversity, and creativity in the design and delivery of localised curriculum" (Bolstad, 2020a, p. 32). In Aotearoa New Zealand, various ad-hoc classroom resources and programmes are available to teachers (PEER, 2021). Too often, teachers are relied on to incorporate it into learning, with the level of success dependent on the drive and enthusiasm of the teacher for this cause. Some climate-concerned teachers and educators feel isolated even within their schools (Bolstad, 2020b).

The number of schools acknowledging climate change issues and incorporating climate change into learning is increasing. The focus appears to be more towards sustainability efforts, including activities like planting and mitigation measures like waste reduction. There is less focus on adaptation, looking at resilience and how to decrease the vulnerabilities of communities to the impacts of climate change (PEER, 2021). Like the emergency management sector in Aotearoa New Zealand, significant efforts and progress is occurring, but these are often in isolation, lacking nationwide collaboration and coordination.

## THE PROPOSAL

In 2010 Chris Eames developed 'A framework for whole-school approaches to Education for Sustainability' which aligns with UNESCO's whole-school approach concept.

Figure six shows an adaptation of Chris Eames' Education for Sustainability (EFS) framework by the Ministry of Education (2022) for the National Curriculum resources webpages. Further guidance on the teaching opportunities and principles are available on the National Curriculum resources webpages and outlined within the proposal section.

### EfS Principles

- Principle 1: Thinking for the future
- Principle 2: Sharing values
- Principle 3: Adopting a uniquely New Zealand perspective
- Principle 4: Growing knowledge, skills, and understanding
- Principle 5: Taking collective action

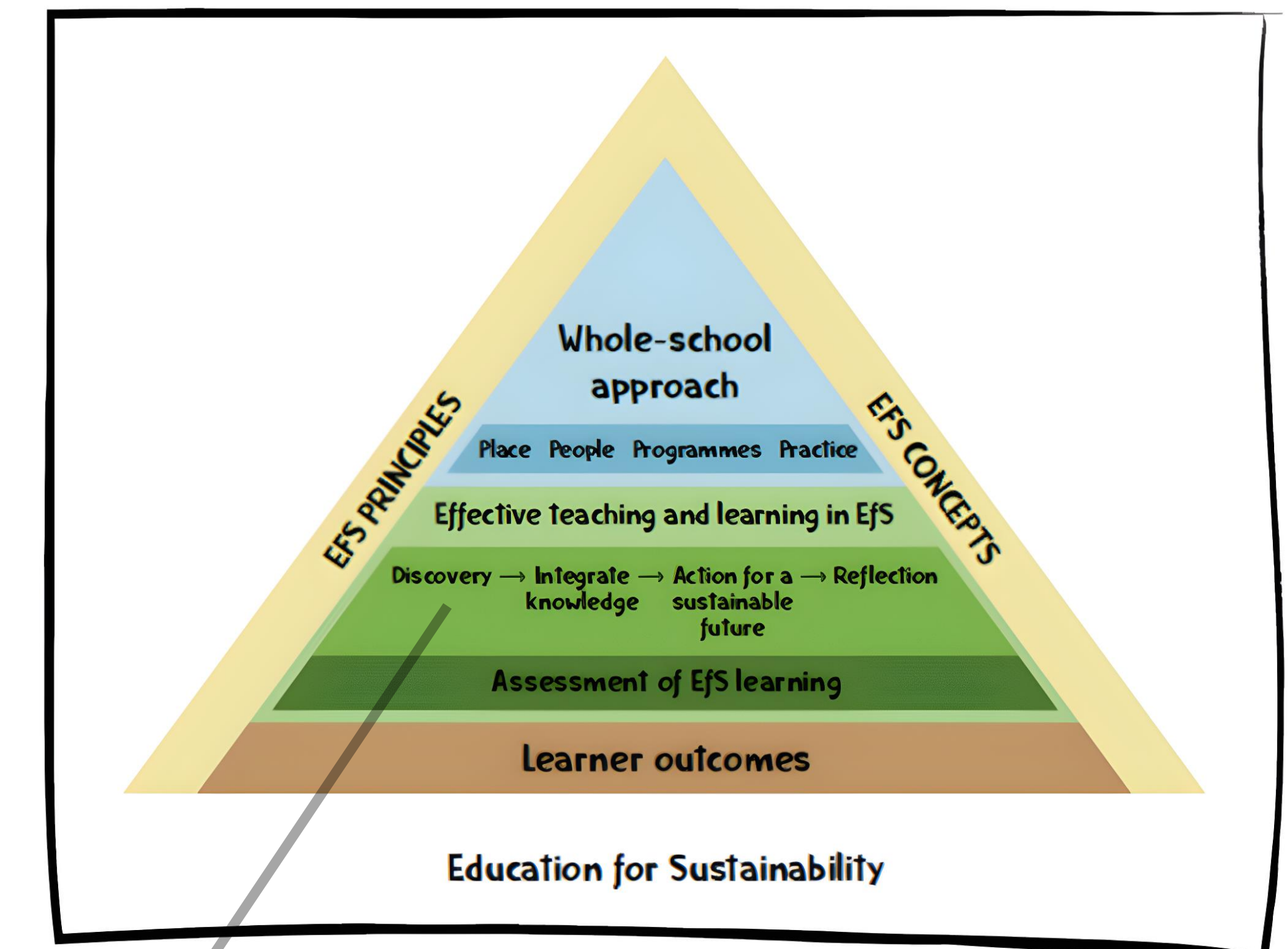


Figure 6: Whole-school approach to Education for Sustainability. (Ministry of Education, 2022)

**Discovery:** Exploring, uncovering connectedness, and illuminating the unknown.

**Integrated knowledge:** Developing conceptual and practical understanding of sustainability and climate change issues.

**Action for sustainable future:** Mapping and implementing the changes that are needed now for the future that we hope for.

**Reflection:** Analysing your experiences and impact through reflective critical thinking.

Compulsory implementation of the framework would ensure a consistent approach to education programmes across Aotearoa New Zealand. While providing flexibility to weave and incorporate the learning and activities within other learning areas and subjects. Additionally, to adapt it to suit the location the children live, and its risks related to climate change.

## NEXT STEP

The next step for Aotearoa New Zealand is to move away from it being an 'opt-in' approach with varied programmes and resources to a **consistent and compulsory one**.

**We should teach children about climate change, the anticipated impacts, consequences, and the need for adaptation. Fostering the curiosity, enthusiasm, drive, and adaptability that being a child brings and empowering them to be key collaborators and contributors. It strengthens children's knowledge, capacity, and voice. The more knowledgeable and empowered children are, the louder their voices can be, to play a larger role in effecting change and influencing decision-making. Only then can generational change happen, changing the mindsets and behaviour of future decision-makers, developers, and innovators. Driving change for those who will live in a world shaped by decisions made in the past and the present.**

**Response will always be an element of emergency management. However, educating and empowering the next generation on climate change adaptation could create a valuable opportunity for emergency management. Adaptation plays a significant role in enhancing resilience, leading to reduced impacts and consequences for communities. More understanding and integration of adaptation could reduce the significant load response currently places on emergency management and resources.**



Figure 5: Youth advocating for their future. (Bolstad, 2020b)

