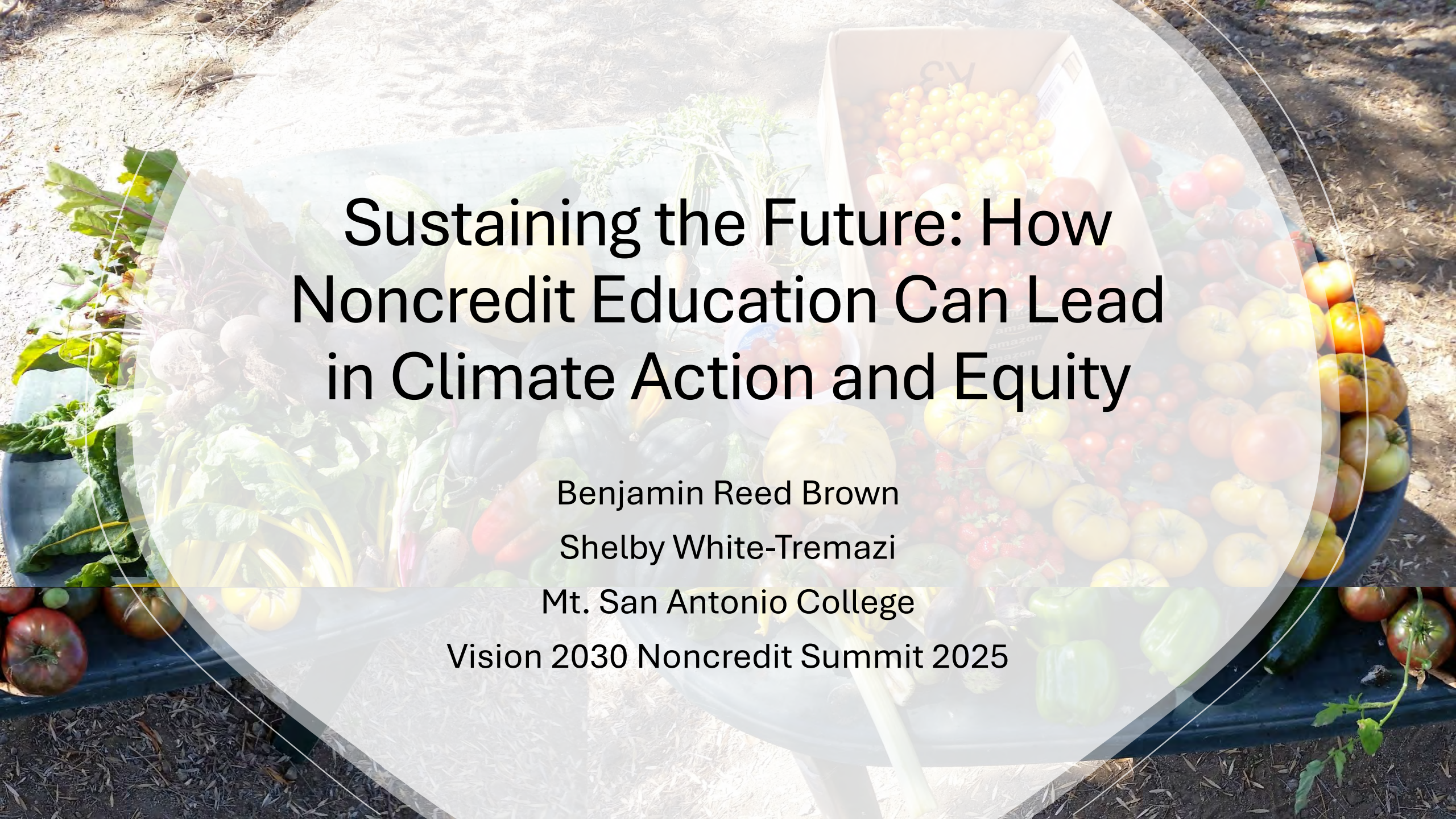

Sustaining the Future: How Noncredit Education Can Lead in Climate Action and Equity

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Vision 2030 Noncredit Summit 2025

About Me

- Started my college career as a student at Mt Sac.
  - Earned degrees in ornamental horticulture and integrated pest management.
- Continued Education at Cal Poly Pomona, earning two degrees:
  - Bachelor's in environmental biology
  - Master's in regenerative studies.

About Me

- Started teaching home gardening classes at Mt. Sac 4 years ago.
- Developed 3 new classes:
  - Regenerative gardening
  - Fundamentals of sustainability
  - Local food communities

Explore	Explore the core concepts behind sustainability
Understand	Understand how climate and equity fit into the broader picture of sustainability
See	See how sustainability principles can be integrated into noncredit education
Reflect	Reflect on the role noncredit programs can play in addressing environmental and social challenges


What is sustainability?

Sustainability is…

Our ability to continue meeting our needs without compromising the ability of future generations to meet theirs.

The Three P's of Sustainability

People

Planet

Prosperity

Breaking Down The Three P’s

People

- Health and well-being
- Education and access
- Equity and social justice

Planet

- Climate change
- Biodiversity loss
- Pollution and waste

Prosperity

- Economic resilience
- Green jobs and workforce development
- Responsible consumption and production

Are our systems sustainable?

People	• The health system • The education system • The justice system
Planet	• The energy system • The food and agriculture system • The waste and resource management system
Prosperity	• The economic system • The labor and workforce system • The production and consumption system

These Systems Aren’t Working for Everyone

People

- Many can’t afford or access the healthcare they need
- Not all communities have equal access to education
- Trust in core institutions is breaking down

Planet

- Soil systems are collapsing
- Climate change is accelerating
- Microplastics and pollution are everywhere

Prosperity

- Workers can’t afford to live where they work
- The wealth gap is widening
- We reward extraction over regeneration

The bottom line – things need to change.

What Does Sustainability Look Like in Practice?

We’ve looked at how sustainability touches people, the planet, and our shared prosperity.

But what does this look like in practice?

What happens when we start reimagining systems, designing for sustainability from the start?

We’re going to watch a short video. While it plays, please consider this question:

What kinds of educational systems and programs are needed to support the transition to a sustainable future?

Living Within Planetary Boundaries

Why Noncredit?

What Noncredit Can Do That Others Can't

Addressing Barriers Through Noncredit Education

- **Low or no cost**: Removes a major barrier to entry
- **Embedded in community**: Local, accessible, and responsive
- **Serves a wide range of learners**, including:
  - Older adults
  - Adults with disabilities
  - Individuals re-entering the workforce
  - People exploring second careers
  - Community members unable to pursue traditional college pathways
- **Expands access to climate and sustainability education** for all
  - “I don’t know where else I would have gotten this education. I don’t have opportunities like this.”

Green Career Pathways For Adult Learners

- Noncredit programs reach learners preparing for careers in environmental and public service sectors
- CCC students gain foundational knowledge for roles in:
  - Cal Fire
  - Caltrans
  - U.S. Forest Service
- These roles increasingly require an understanding of:
  - Climate change
  - Resource conservation
  - Environmental justice

But.. Sustainability Literacy Is for Everyone

Not all learners are seeking new careers - but all are part of a changing world

Older adults, retirees, and lifelong learners shape their families and communities

Many students say this content should be taught in K–12: *“I wish I’d learned this in high school.”*

Sustainability education builds more informed citizens, voters, and neighbors

Vision 2030 Action Goals

- This isn't just my opinion - it's the **state's long-term vision.**
- *"California Community Colleges will lead the climate response through curriculum, workforce training, and community engagement."*
  - **Vision 2030, Action 9**
- **Noncredit is uniquely positioned to lead -** and at Mt. SAC, **we've already started.**

SCE Sustainability Efforts at Mt. Sac

How It Began – My Teaching Journey

- Began teaching **Home Gardening**
- Early on, I asked: “Can I integrate sustainability into this course, even if it’s not in the COR?”
- I received support and started embedding sustainability in small but impactful ways
- For example: incorporating **nutrient cycle education** in my soils lesson

A Simple Step Toward Sustainability

- During my **soils lesson**, I show a short **YouTube video on the nitrogen cycle**
- It helps learners understand how soil microbiomes are impacted by:
  - Compost and mulch (positive support)
  - Overuse of synthetic fertilizers (disruption)
- This 4.5 minute video enhances understanding **without needing a full new lesson**
- Adding a video that touches on the climate and sustainability is a small step - but one that anyone can take.

Why I Created Regenerative Gardening

As I taught more Home Gardening classes, I wove sustainability and regeneration into the lessons - and students loved it. But because these topics weren't part of the official course outline, they could easily be lost if new instructors came on. Seeing the growing need, I created an entirely new course: **Regenerative Gardening**.

From Regenerative Gardening to Department-Wide Change

- After creating *Regenerative Gardening*, I began thinking about how to integrate sustainability across our entire department.
- I developed a *Sustainability Plan Proposal* outlining strategies to embed sustainability into noncredit education.
- Vice President Madelyn Arballo reviewed the plan and helped me start a new effort:
  - *The COR Update Project* - a pilot to help professors infuse sustainability into their COR's.

The COR Update Project – Overview

- I worked with professors from various disciplines to help them revise their Course Outlines of Record (CORs).
- Two key resources I shared:
  - *Intro to Sustainability* guide
  - *Sustainability in Curriculum Self-Assessment Tool*
- Each professor completed a **self-assessment** based on 5 categories:
  → **People**, **Planet**, **Prosperity**, **CMO's**, and **Local/Regional Issues**
- Each category scored 0–3, for a total possible 15 points.

Example Assessment Category – Planet

- **Criterion**: Does the COR include content related to environmental awareness or stewardship?
- **Examples**:
  - Topics on climate change
  - Discussions on our waste issues
  - Lessons on ecosystem health

Making Sustainable Revisions

- After the assessment, professors revised their CORs to include:
  - A sustainability-aligned **Course Objective**
  - A sustainability-focused **Outline Topic**
  - A **Sample Assignment** related to sustainability
- I reviewed all revisions and offered 1:1 meetings to support the process.
- Professors were allowed to use tools like ChatGPT to brainstorm ideas (with careful oversight).
- A final self-assessment was completed to reflect growth.

Shelby White-Tremazi, EOA Faculty

Recommendations for Improvement: *Thanks to Chat GPT*

- **People**: Incorporate community engagement projects or discussions on how cognitive health impacts community well-being.
- **Planet**: Introduce content on how environmental factors (e.g., pollution, climate change) influence brain health.
- **Prosperity**: Discuss the economic impacts of cognitive decline and the benefits of preventive health measures.
- **SLOs**: Explicitly state sustainability-related outcomes like “Analyze sustainable lifestyle practices for brain health.”
- **Local Issues**: Address local public health initiatives for brain health or regional demographic impacts on aging populations.

CATALOG DESCRIPTION

Old

- This course improves cognitive abilities by combining brain training with brain health topics/lectures to strengthen and improve brain function. Particular focus on how to live a brain healthy lifestyle.

New

- This course improves cognitive abilities by combining brain training with brain health topics/lectures to strengthen and improve brain function. Particular focus on how to live a brain healthy lifestyle while integrating sustainability practices related to social, environmental, and economic well-being.

Measurable Objectives

Old

1. Compare the differences between normal memory loss and memory loss due to other factors.
2. Distinguish between genetic and environmental brain disorders.
3. Describe negative brain plasticity and cognitive decline.
4. List dementia risk factors that can be controlled or inhibited.
5. Define the most common causes of memory loss.
6. Discuss brain functions and brain training myths.
7. Demonstrate improved visual and auditory cognitive skills using brain training software

New

1. Compare the differences between normal memory loss and memory loss due to other factors.

2. Distinguish between genetic and environmental brain health risk factors.

3. Describe negative brain plasticity and cognitive decline, including how community and social connections foster cognitive resilience.

4. List dementia risk factors that can be controlled or inhibited, including strategies to mitigate these risks through environmentally and socially sustainable practices.

5. Define the most common causes of memory loss and identify sustainable strategies to reduce these losses.

6. Discuss brain functions and brain training myths, incorporating an understanding of how sustainable behaviors impact cognitive health.

7. Demonstrate improved visual and auditory cognitive skills using brain training software.

LECTURE TOPICAL OUTLINE

OLD

- Normal memory loss
- Genetic and environmental brain disorders
- Negative brain plasticity and cognitive decline
- Dementia risk factors
- Common causes of memory loss, including changes to hippocampus, hormones, proteins, blood flow, and nutrition
- Brain functions and brain fitness myths: research on genetics, lifestyle, and medication
- Strategies for building cognitive reserve
- Visual and auditory brain plasticity exercises

NEW

- Normal memory loss
- Genetic and environmental brain disorders, including the role of environmental toxins and pollution
- Negative brain plasticity and cognitive decline.
- Dementia risk factors, including how diet, exercise, and sustainable living practices can reduce risks
- Common causes of memory loss, including the impact of environmental and socioeconomic factors
- Brain functions and brain fitness myths: research on genetics, lifestyle, medication, and sustainable habits
- Strategies for building cognitive reserve through community engagement and lifelong learning
- Visual and auditory brain plasticity exercises

Category	Old Score	New Score
People (Social)	1	3 ✅
Planet (Environmental)	0	2 🌿
Prosperity (Economic)	0	1 💰
Sustainable Learning Outcomes	1	3 🎯
Local Issues	0	1 🌎
Total	**2**	**10**

Funding

Since Vision 2030 highlights climate action as an important goal, you may have extra buy in or access to funds through your campus related to these efforts.

In our case, we used district funds for nonteaching time for curriculum development.

Let’s go back to that question from earlier.

What kinds of educational systems and programs are needed to support the transition to a sustainable future?

My Perspective:

- We need educational systems and programs that teach students how to think outside the box.
- Our classes shouldn’t be informative – they should be transformative.
- As a society, we need to create new systems to support our people, our economies, and the planet.
- We need to cultivate critical thinkers who can envision and lead the transformation toward a more sustainable and equitable world.

Preparing Students to Lead in a Changing World

We need curriculum that equips students with the tools to understand – and respond to – the challenges of our time.

And we need to support educators in bringing sustainability into the classroom, so every student has a chance to think critically, act ethically, and lead with purpose.

We Need to Build Community Through Hands-On Learning Opportunities

Learning happens through *doing*, *growing*, and *sharing*.

Our hands-on garden classes bring in older adults, working professionals, retirees, and young adults – people from all walks of life.

These spaces foster connection, well-being, and resilience.

Sustainability education is more powerful when it’s rooted in real experience.

What does this REALLY look like?


Please
don't take
our
Compost

Key Takeaways: What Can You Do?

- Reflect on how sustainability relates to your subject or role
- Start a conversation with your colleagues about climate and equity
- Look at your Course Outline of Record - could sustainability fit?
- Pilot a single activity, resource, or assignment
- Talk to your department leadership about support
- Partner with someone doing sustainability work
- Create opportunities for hands-on, real-world learning - in a garden, a kitchen, or a workshop
- Don’t wait to be an expert - start with curiosity


Questions

Thank you for your time!


A Final Word from Dr. Jane Goodall.