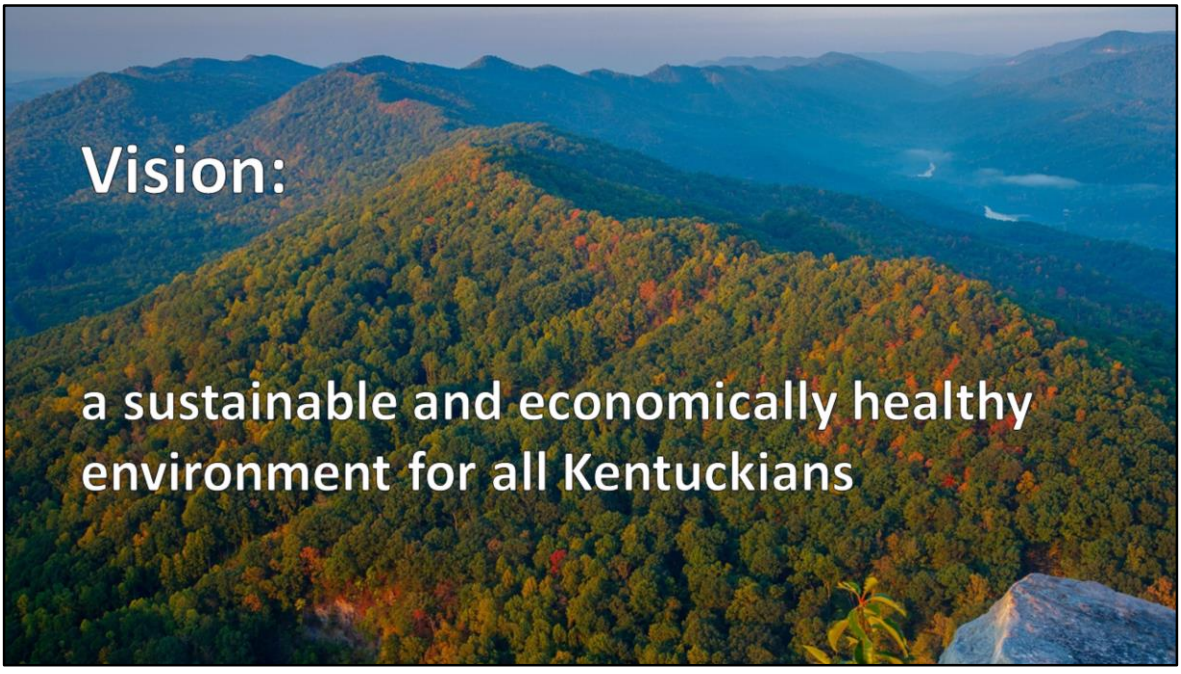


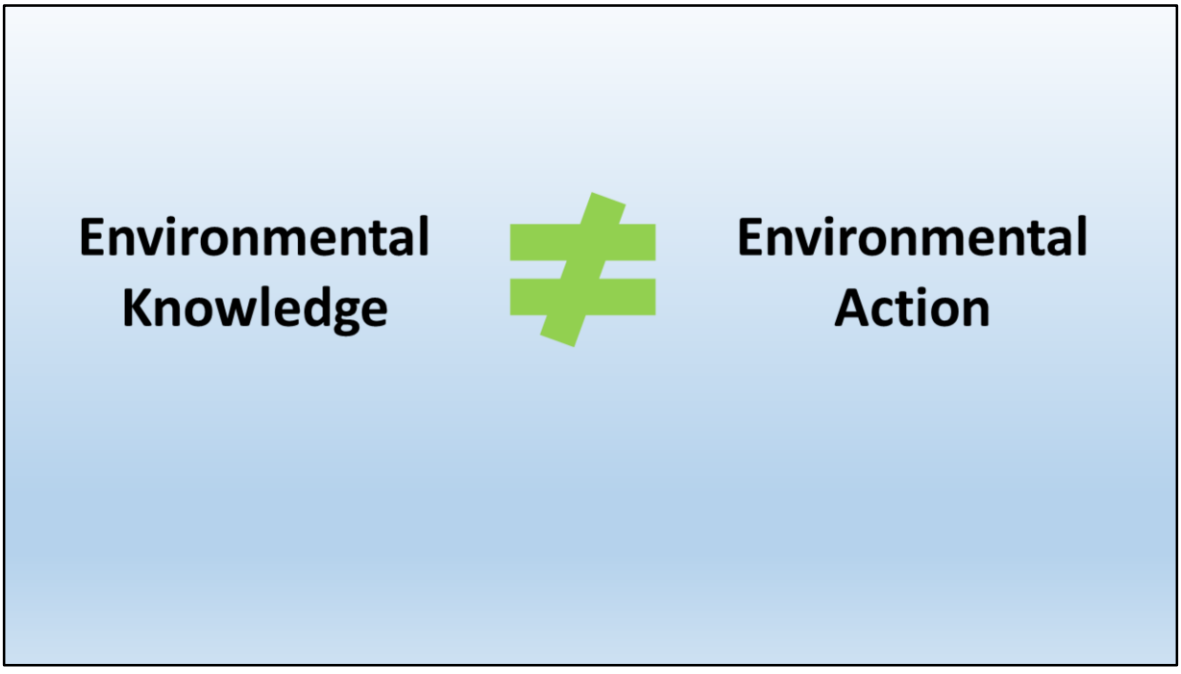
- We took a course at Cornell on how best to achieve EE outcomes, and we learned some interesting things that might surprise you.
- We believe that this research should inform the master plan process, so we are sharing what we learned with you.
- We've condensed an entire course into a 10-minute overview, so feel free to stop and ask questions at any time

<u>How do we equip Kentuckians to achieve this?</u>

Within the traditional EE framework of Knowledge, Attitudes, and Behaviors (which you will recognize from the name of our survey), we sometimes assume that if we impart environmental knowledge, that will lead to pro-environmental attitudes, which will lead to pro-environmental behaviors, which will lead to a healthy environment.

For example: if you teach people about water pollution, they will be more likely to want to protect their local streams, and they will stop leaving pet waste on their lawns, and water quality will improve.

But research indicates it does not work that way.

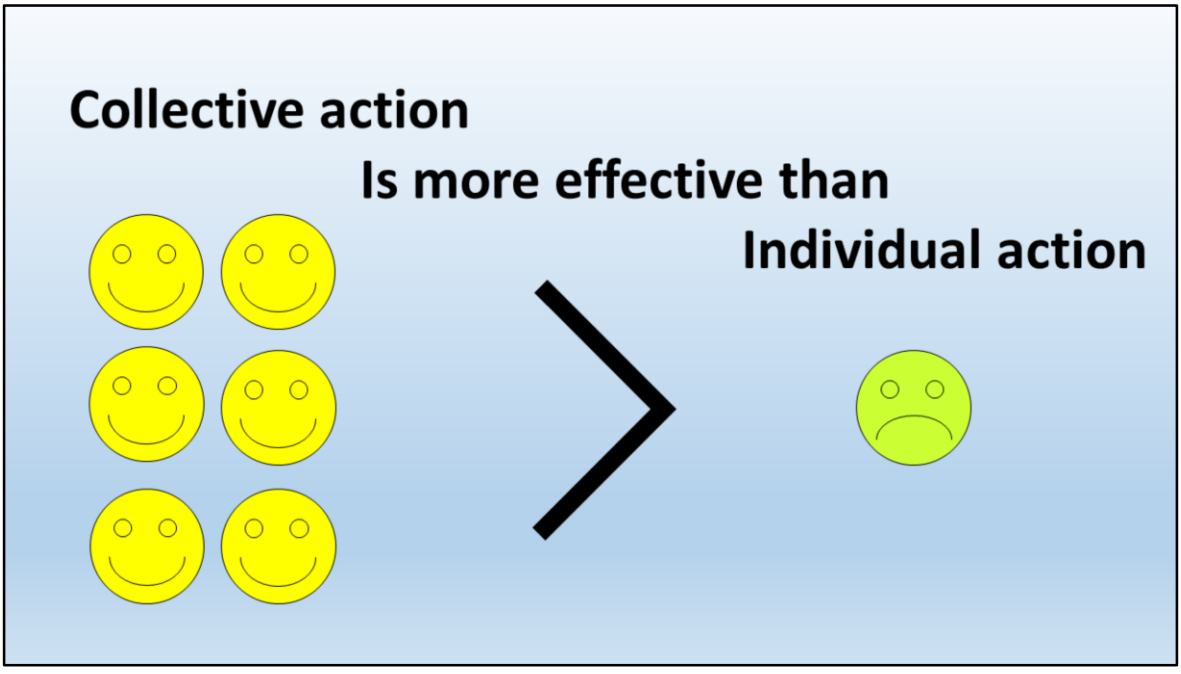


There is no correlation between knowledge of human impacts on the environment and action to protect the environment.

Instead of a linear model, we need to be aware of:

The reality, which is more complicated: the relationships are not linear, and they change with age.

But there is solid research on the most effective EE strategies for achieving our vision.



The most effective strategy is collective environmental action.

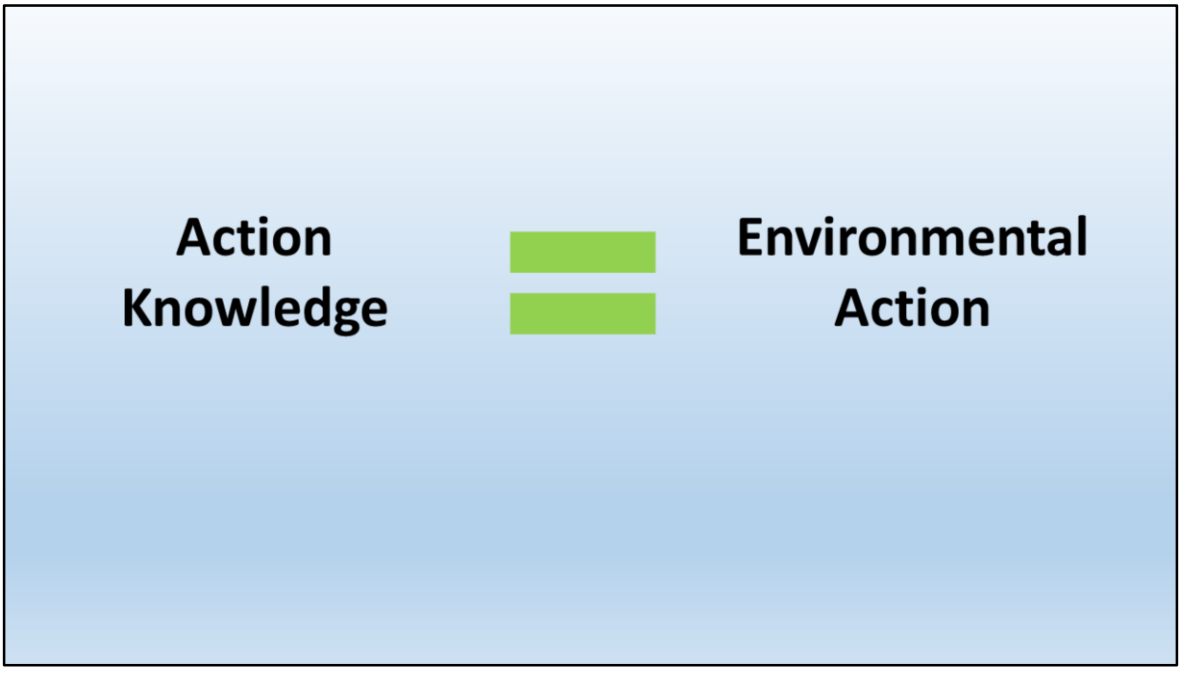
It is not enough for environmental education to promote action for the environment: It needs to emphasize the most strategic actions ….(t)he effect of private actions is limited unless it is combined with organizing for collective public change. If environmental educators confine themselves to fostering private sphere environmentalism, they may in fact be leading students astray (Chawla and Cushing 2007, 438).

For example, if an EE program encourages recycling, but the community has a limited or non-existent recycling program, their individual effort is ineffective.

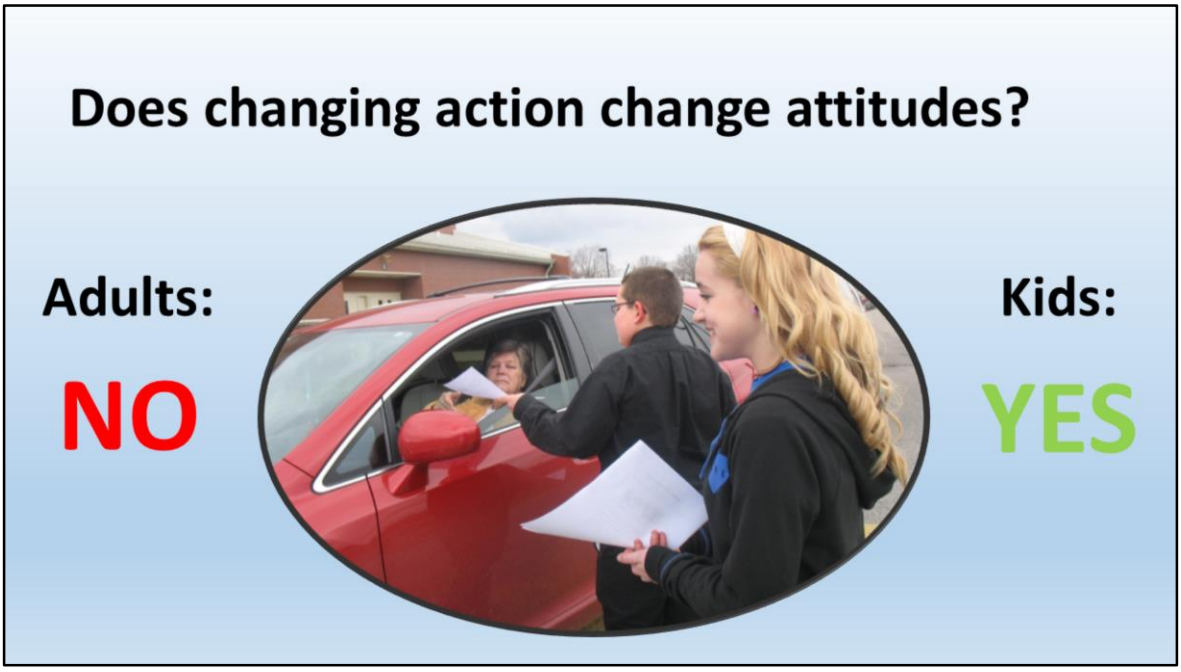
How do you get people to engage in collective action? By creating programs where they engage in collective action.

Environmental action builds both community and individual capacity, which creates the conditions for further civic engagement and collective action. This type of feedback, where youth and adults influence their surroundings, thus creating greater opportunities for themselves and future environmental action, is not generally possible through individual consumer, energy, and similar individual lifestyle environmental behaviors.

For example, the Lexington-Fayette Urban County Government created the Citizens' Environmental Academy in 2017. The program teaches residents about city environmental services, then gives them funding to create their own group service projects. It maintains contact with all participants after graduation. The result is a large cohort of volunteers who know how to achieve results.



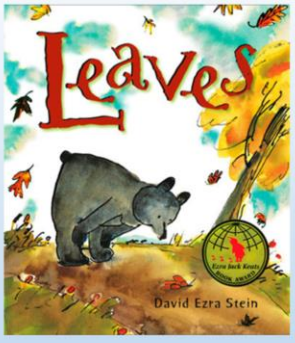
There is a correlation between this kind of action knowledge and action to protect the environment. But people will not put their action knowledge into beneficial practice unless they have pro-environmental attitudes.



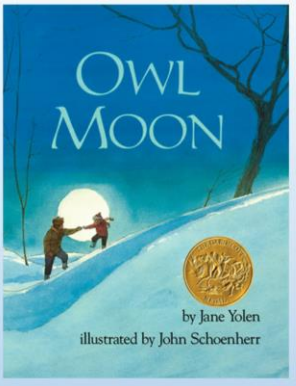
Research shows that, even if you can get adults to participate in pro-environmental actions, that has little impact on their environmental attitudes. However, children who participate in pro-environmental actions are more likely develop pro-environmental attitudes.

For example, when students encourage parents not to idle their vehicles in a school pickup line, the impact on the students' attitudes will be much greater than on the parents'.

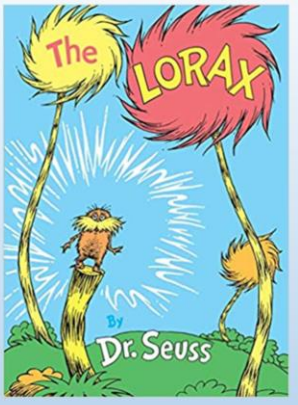
But these programs work only for older children, and they are not the only strategies for developing pro-environmental attitudes.



Early Childhood: **Empathy**



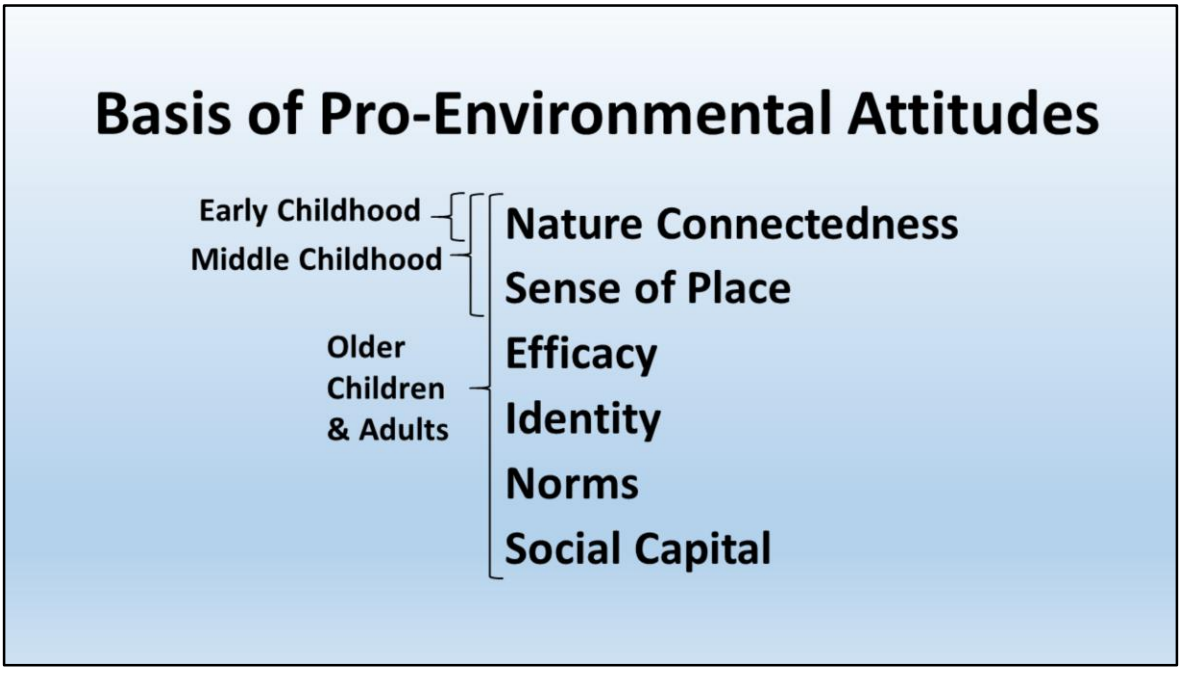
Middle Childhood: **Exploration**



Early Adolescence: **Action**

David Sobel identified three phases of environmental education:

- Early childhood, when activities should center on enhancing the developmental tendency toward empathy with the natural world;
- Middle childhood, when exploration should take precedence; and
- Early adolescence, when social action should assume a more central role.



Sobel's framework, combined with other research, indicates several areas of focus for EE programs in order to encourage pro-environmental attitudes that lead to pro-environmental actions:

Some ramifications for KEEC priorities:

- **Many of these focus areas are difficult to achieve in public education settings**
- **KGHS is strongly aligned with research, but may not be effective for pre-K and early elementary**
- **PEEC course should focus less on environmental knowledge and more on action knowledge**
- **Huge benefit of EELCorps is the members themselves, an ongoing cohort of Kentuckians equipped for action**

Nature Connectedness

- Nature connectedness is a feeling of being connected and belonging to the natural community.
- Nature connectedness fosters environmental behaviors through its association with feelings of belonging to the community of nature, of nature being part of our identity, and of happiness.

- Environmental education can foster nature connectedness among children through providing long-term, repeated, sensory experiences in nature, often with family members.

Sense of Place
- Sense of place reflects how people perceive and feel about places, including meanings they attribute to places and how strongly they are attached to places.
- People who ascribe ecological meanings to a place are more likely to engage in stewardship and other behaviors to protect a place against development.

Efficacy
- Efficacy refers to people's beliefs about whether their actions will achieve their individual or group goals.
- Environmental educators foster efficacy through providing participants with mastery experiences, role models, and supportive social interactions, and paying heed to participants' emotions.

Identity
- Identity refers to the labels we give to ourselves, the groups we belong to, and how we distinguish ourselves from others.
- Environmental education, including approaches that engage participants in environmental action, debates, and developing a sense of responsibility for nature, can foster environmental identity.

Norms
- Social and personal norms are standards of behavior that society expects of us or that we expect for ourselves.
- Social norms influence environmental behaviors because people tend to conform with what others do.
- Personal norms influence environmental behaviors through feelings of moral obligation, guilt, and pride.
- Schools and environmental education programs and facilities can set social norms for behaviors, and thereby influence students' personal norms and behaviors.

Social Capital
- Social capital encompasses trusting relationships and norms that facilitate cooperation for mutual benefit.
- Environmental education can foster social capital by engaging participants in challenging cooperative activities, offering the support needed for the group to succeed, setting norms of fairness and open communication, and providing opportunities for participants to partner with community members.