

# An Evaluation of the North Carolina Environmental Education Certification Program



# Office of Environmental Education and Public Affairs



N.C.  
ENVIRONMENTAL  
EDUCATION

Department of Environmental Quality



# Exit Survey - 2013 -2017

- Covers data from 217 of 280 North Carolina certified environmental educators from 2013 - 2017
- Survey taken upon completion of program
- Survey part of online portfolio
- Survey not intended to collect data



# Survey Questions

1. Which best describes your current role?
2. Please indicate the highest education level you have completed.
3. Has obtaining your EE Certification assisted with your career advancement? If yes, how?
4. What do you do? (Few sentences describing your work and can include hobbies)
5. What was your favorite part of earning your certification?



# Survey Questions

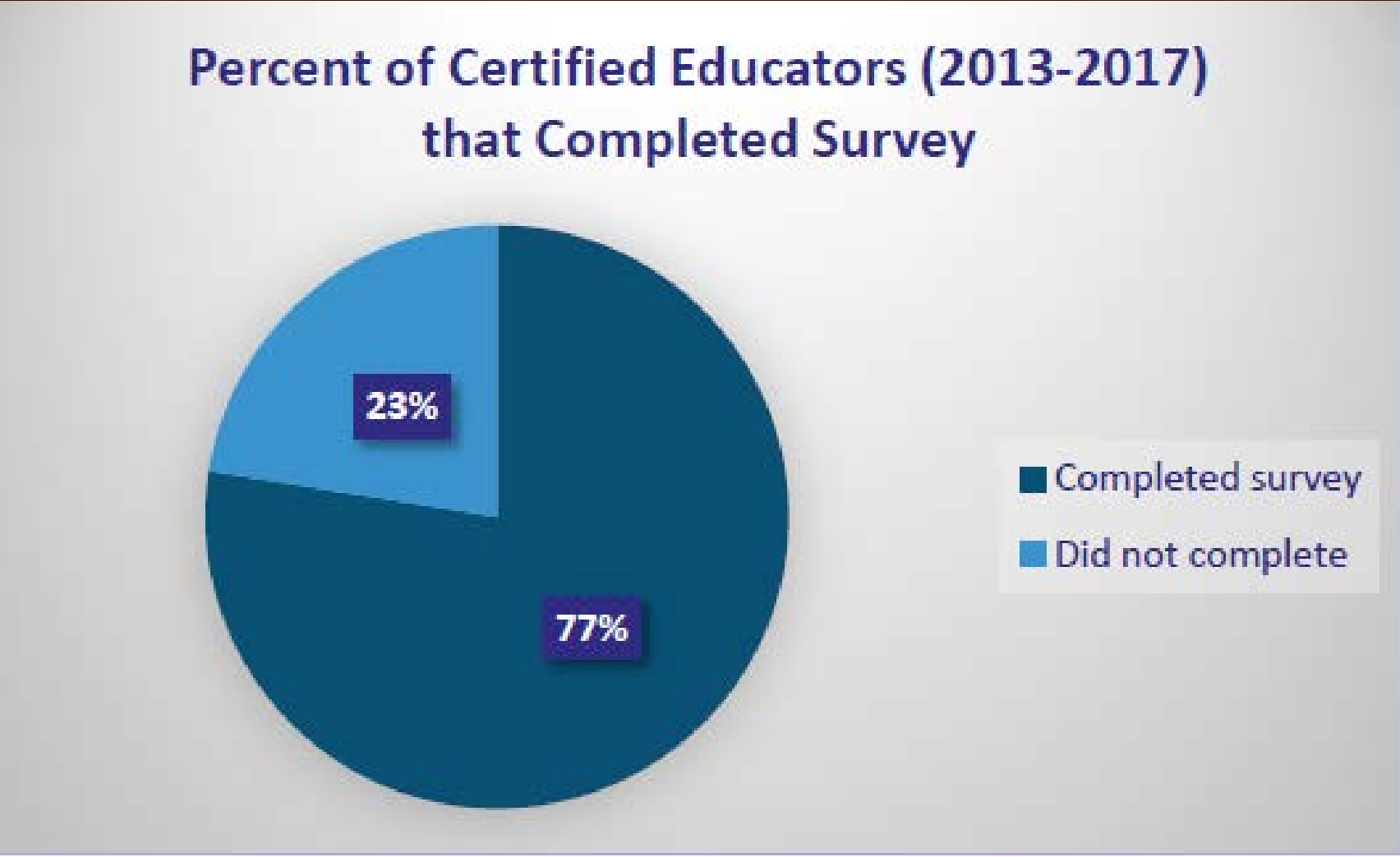
6. What certification experience stands out for you?
7. What was your community partnership project and how did it affect the community?
8. Please explain how participating in the EE Certification program led to any changes in your approach to teaching others.
9. Please explain any changes in the way you think about environmental issues after participating in the certification program.
10. What could be done to improve the EE Certification program?



# Survey Demographics

## RESPONSE RATE

Within those certified from 2013 to 2017, 77% completed the survey

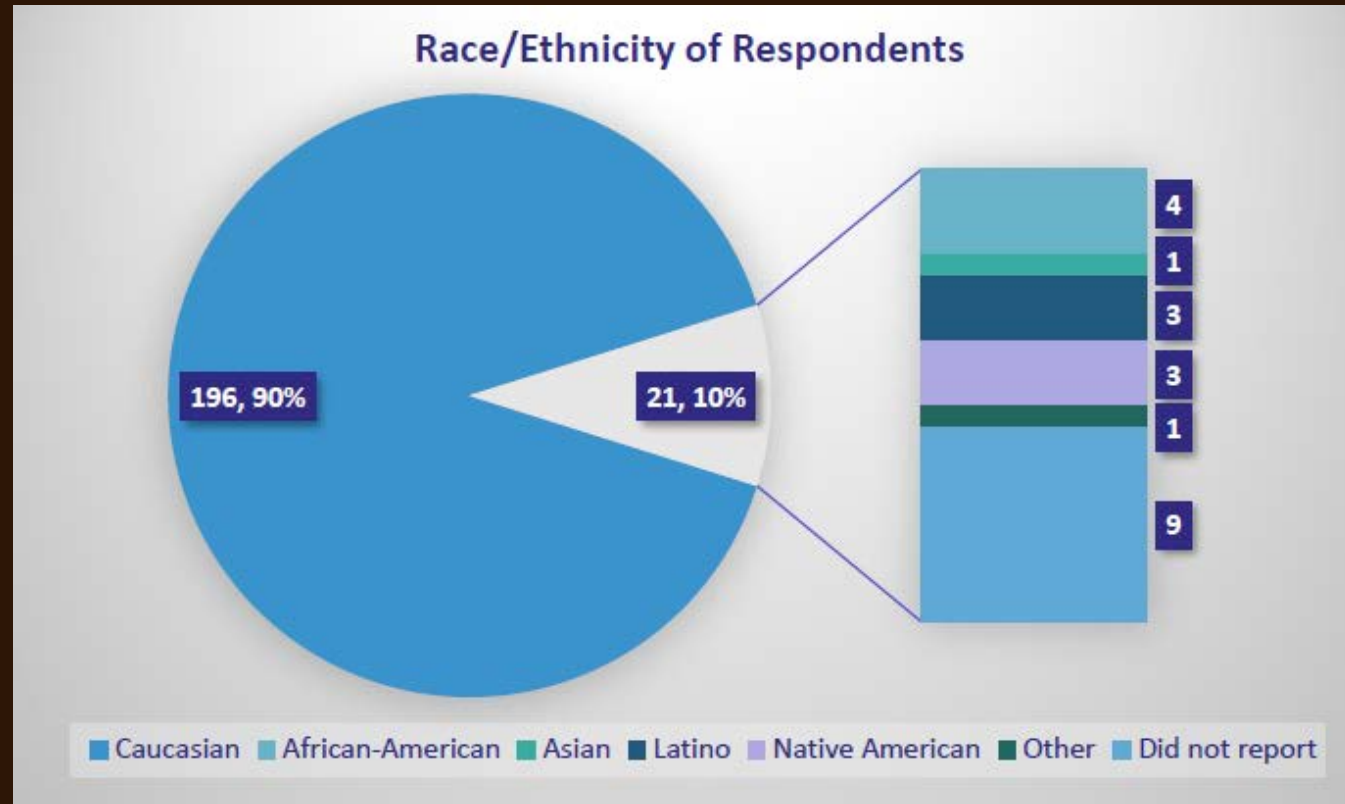


# Survey Demographics

## RACE AND ETHNICITY

Out of the 217 educators who completed the survey, 90% identified as white/Caucasian. Respondents who chose not to identify a race/ethnicity are the second largest group (4%), followed by those identifying as African-American (1%), Latino (1%), and Native American (1%).

North Carolina demographics = the majority identifying as white (71%). The second largest group are Black or African-American (22%), followed by Hispanic or Latino (9%).





## Survey Demographics

### GENDER

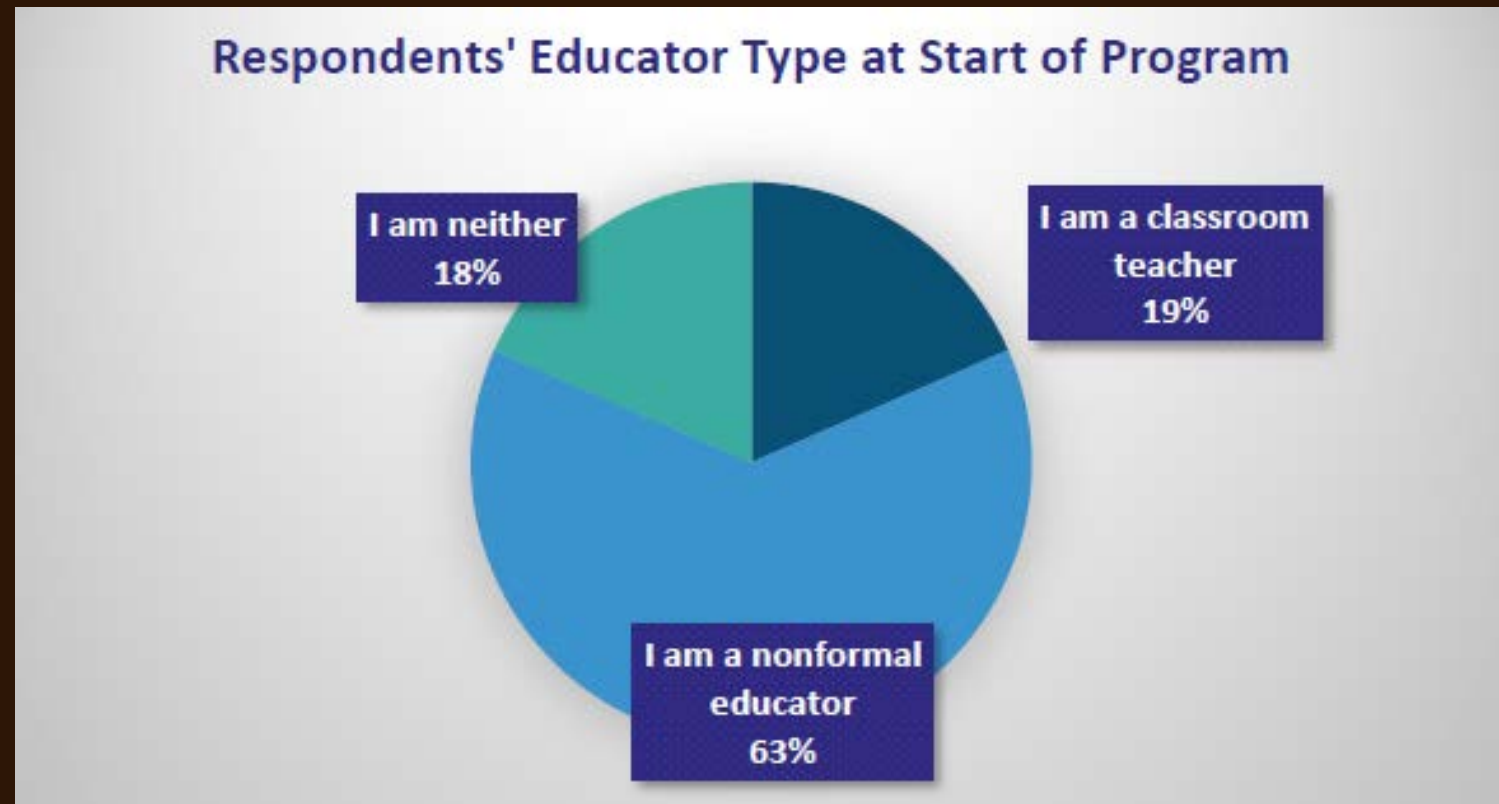
Most respondents did not identify a gender on the survey. Of those who did reply, roughly 75% identify as female and roughly 25% identify as male.



# Survey Demographics

## TYPE OF EDUCATOR

Upon starting the certification program, most of our respondents (63%) are nonformal educators. 19% are classroom teachers in K-12 schools. The last 18% serve in diverse roles such as park rangers, undergraduate/graduate students, volunteers/docents, college instructors, project managers in private industry, and homeschool instructors.



# Survey Demographics

## RESIDENCE

- Many respondents live in North Carolina (88%) However, 12% educators live in thirteen different states across the United States of America, including South Carolina, Virginia, Florida, and Georgia. There are also respondents in California and Washington.
- There were NC respondents from 62 counties
- There were people in 20 counties that did not fill out the survey
- 18 counties do not have any certified educators (some counties have certified educators but none completed the survey)
- If you look at all certified educators from 1996 (n=780) more than 80% of counties have certified educators

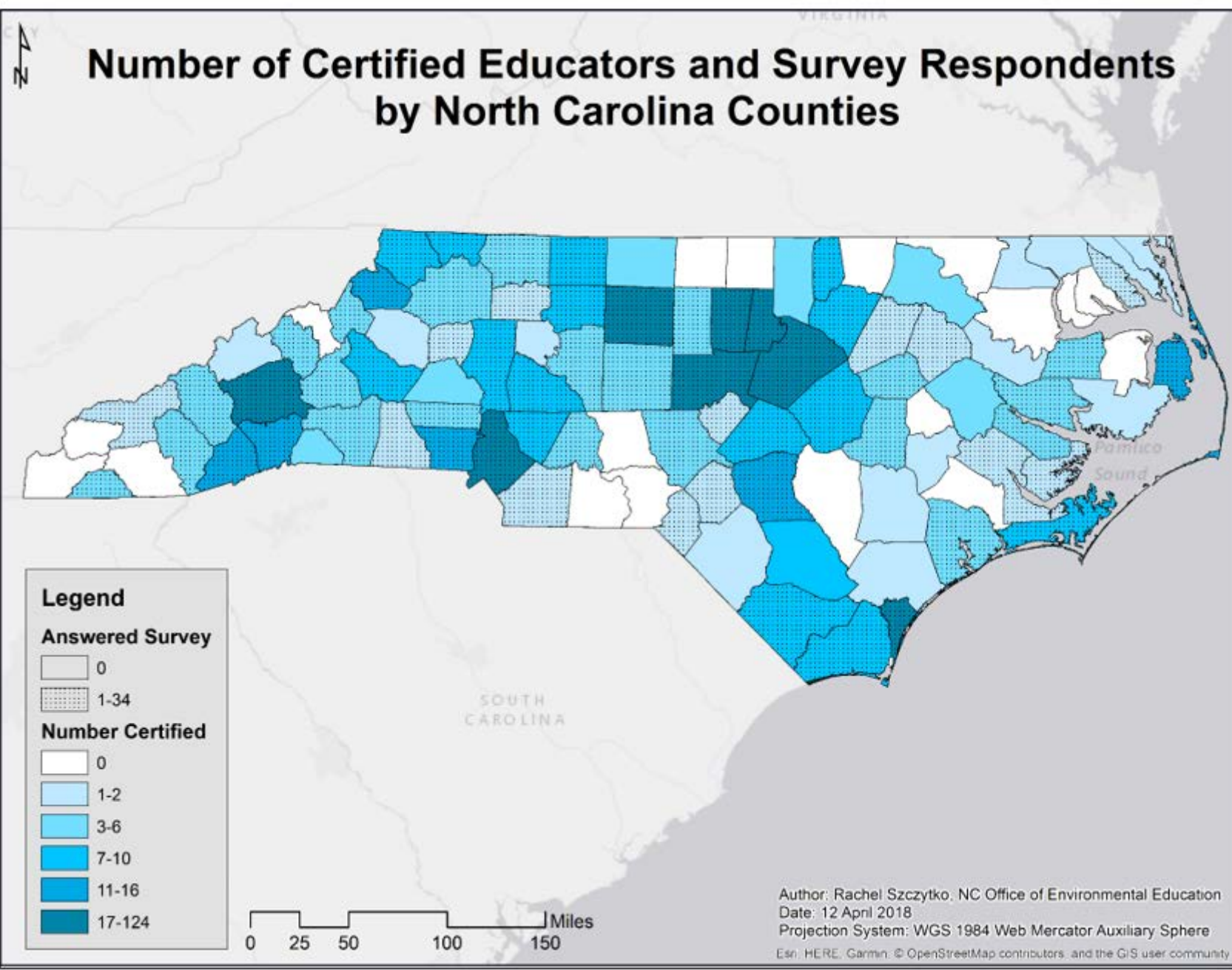


County	Number Certified	Answered Survey
Anson	0	0
Bertie	0	0
Bladen	7	0
Caldwell	2	0
Camden	1	0
Caswell	0	0
Catawba	5	0
Cherokee	0	0
Chowan	0	0
Currituck	2	0
Davie	1	0
Duplin	1	0
Gates	2	0
Graham	0	0
Granville	3	0
Greene	0	0
Halifax	4	0
Hertford	1	0
Hyde	1	0
Jones	0	0
Lenoir	2	0
Macon	0	0
Madison	1	0
Martin	1	0
Mitchell	0	0
Montgomery	0	0
Northampton	0	0
Pender	1	0
Perquimans	0	0
Person	0	0
Pitt	5	0
Polk	3	0
Richmond	0	0
Robeson	2	0
Rockingham	3	0
Sampson	0	0
Tyrrell	0	0
Warren	0	0

Table 1. Counties in North Carolina without any survey respondents ( $n = 38$ ) and the number of certified educators in these counties. The eighteen counties with no certified educators are emphasized.

## 18 Counties without Certified Educators

Anson  
 Bertie  
 Caswell  
 Cherokee  
 Chowan  
 Graham  
 Greene  
 Jones  
 Macon  
 Mitchell  
 Montgomery  
 Northampton  
 Perquimans  
 Person  
 Richmond  
 Sampson  
 Tyrrell  
 Warren



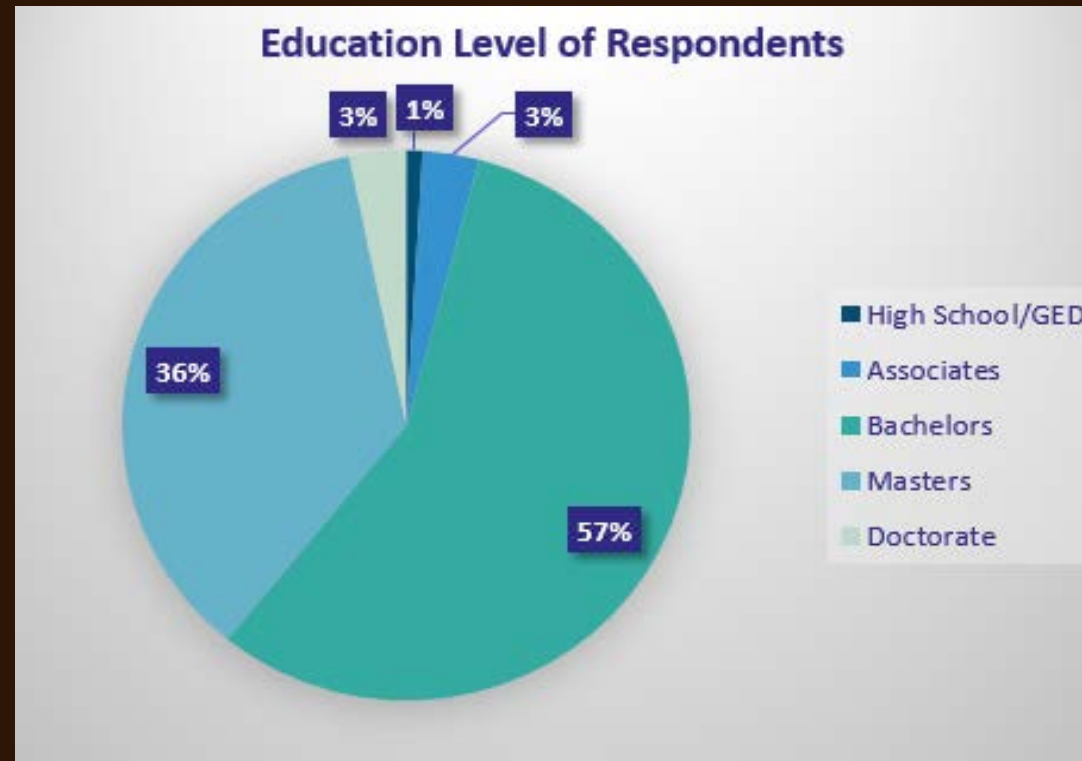
# Survey Demographics

## EDUCATION LEVEL

Our survey respondents are highly educated

- Ninety-nine percent have some type of college degree
- Nearly 40% have a graduate level degree.
- This is significantly higher in comparison to the North Carolina population, where 29% of the population has Bachelor's degree or higher.

Data retrieved from <https://www.census.gov/quickfacts/NC>, pertaining to data from 2012 to 2016

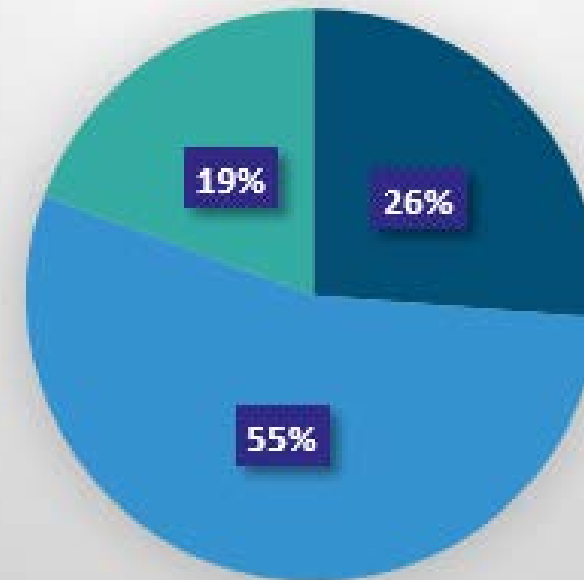




# Career Advancement

When you take out the non-applicable respondents, 67% of educators reported the program advanced their career.

**Respondents Who Say Certification  
Advanced Career**



■ No ■ Yes ■ N/A



## Career Advancement

### Job competency and qualification

Of the respondents who said the program advanced their career, 60% said it helped them find a new job or career

37% - Found a new job

12% - Started a post-retirement career

13% - Changed careers

Of all survey respondents 33% reported that the environmental education certification helped them find a new job or career



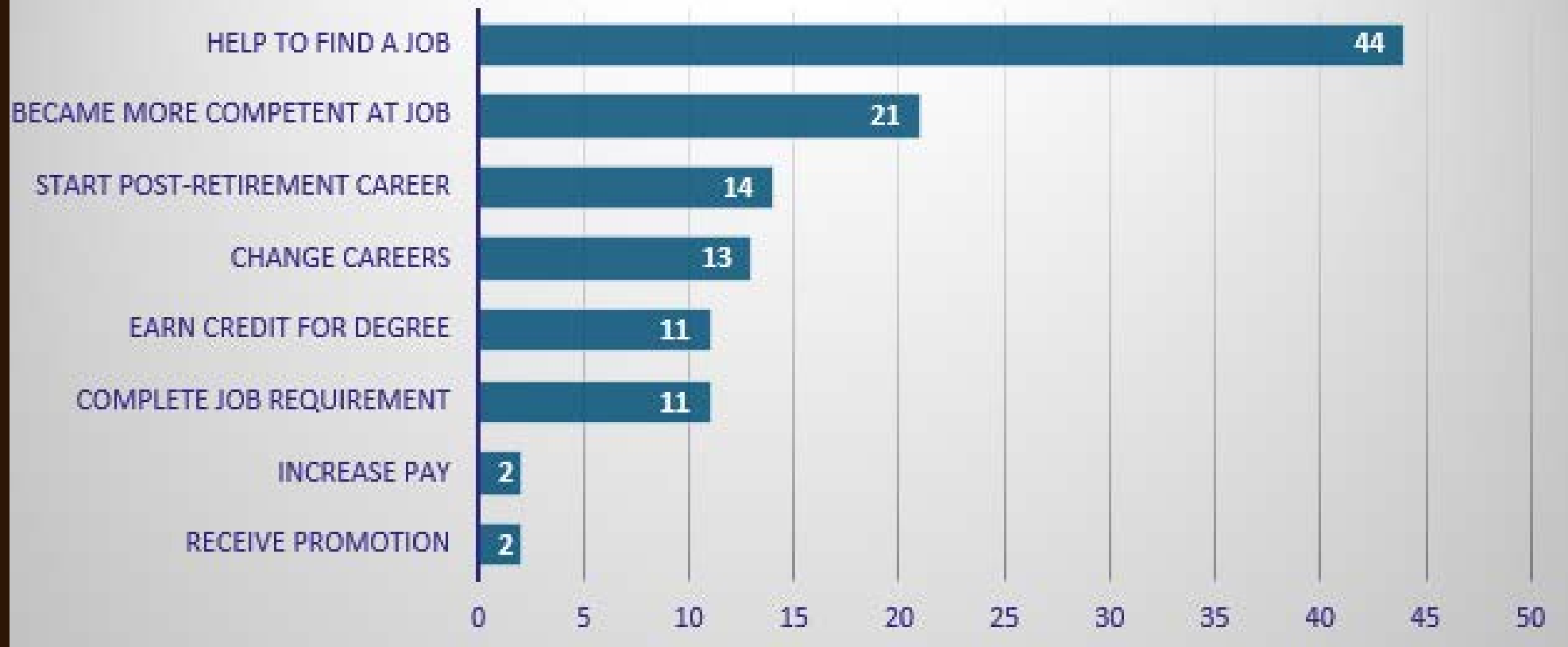
## Career Advancement

- 18% note that certification made them more competent at their job (e.g., able to create or improve programming).
- 9% are students and say that the certification program directly helped them with their degree (e.g., earning credit or providing a focus for a dissertation).
- 9% note that certification was a job requirement
- 2% of respondents relate that certification either increased their pay or resulted in a promotion



# Career Advancement

## How Certification Advanced Careers of Respondents



# Highlights of Certification

## FAVORITE PART

Most survey respondents indicate that their favorite part of the environmental education certification program was interacting with and learning from others.

31% of all educators said this directly, and more respondents had this wrapped into another answer.

“My favorite part of this certification was really the workshops. These gave me an opportunity to network with other environmental educators, but also gave me amazing curriculum to help me get started as an environmental educator.”



# Highlights of Certification

## FAVORITE PART

26% percent of all respondents enjoy attending workshops in general, or specifically, Criteria 1 or methods workshops.

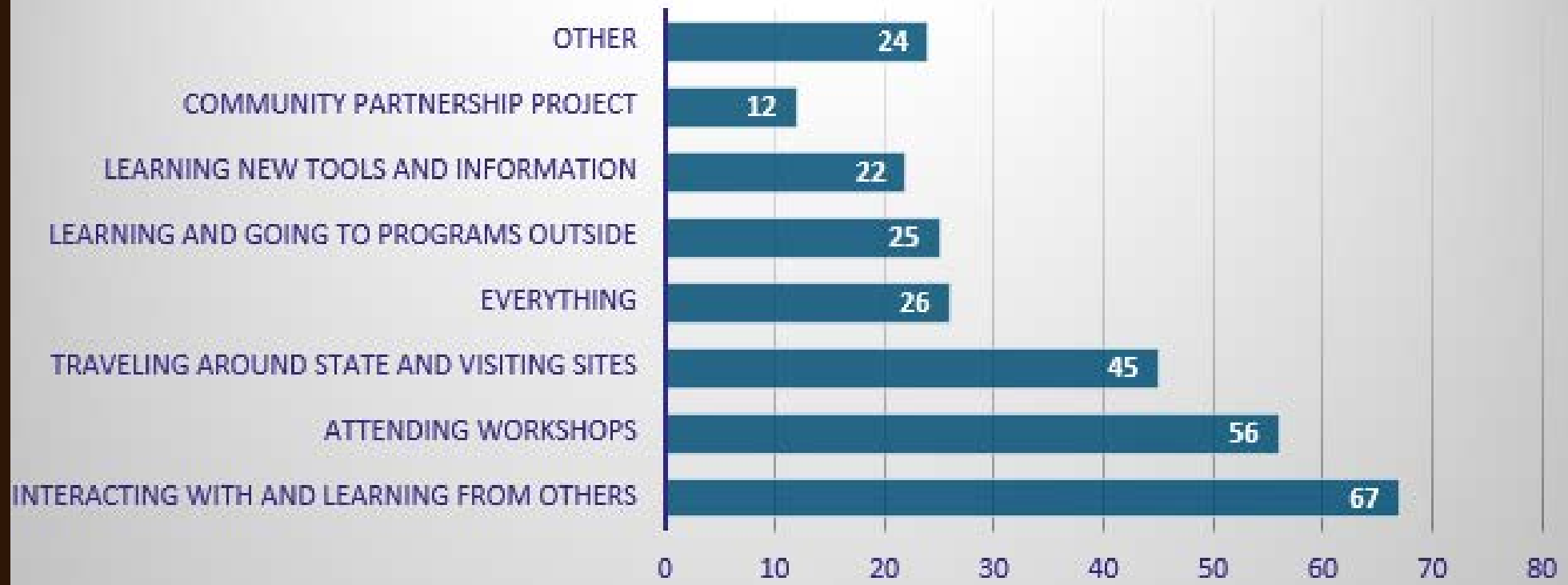
21% of all educators especially favor traveling the state to go to workshops and visiting sites (e.g., meeting Criteria 3).

12% percent enjoy learning and going to programs outside.



# Highlights of Certification

## Respondents' Favorite Part of Certification





## Highlights of Certification

24% of responses fall into the “Other” category.

Nine of these responses refer to a specific curriculum, often one of the Project WILD curricula such as Growing up WILD

Six respondents say their favorite part was actually teaching, and five report it was getting resources (e.g., curriculum guides) to teach with.

Four respondents are the only individuals to give a specific answer; the responses are: having an excuse to take their family outside, going through the program with a friend, refreshing past education courses from college, and attending the N.C. Museum of Natural Sciences Educator Treks



## **Sample Quotes from Favorite Part**

### **Interacting with and learning from others**

My favorite part of the certification program is having the chance to learn with and from other educators. I absolutely love the fact that through this program you can meet educators from across the board (and across the state!) From park rangers to stay at home moms, I've met some incredible people and everyone brings their unique experience to the table.

### **Attending Workshops**

My favorite part of this certification was really the workshops. These gave me an opportunity to network with other environmental educators, but also gave me amazing curriculum to help me get started as an environmental educator.

### **Community Partnership Project**

My final project was very fulfilling. It allowed me to complete a long-term goal at my previous workplace and leave a lasting impact on the educational space. I enjoyed collaborating with many community partners and organizing volunteers to complete a vision larger than I could have tackled on my own.

# Stand-Out Experience



The community partnership project stood-out for 12% of all respondents

Workshop instructors – specifically or individually – stand-out to 10% of all respondents.

Site visits again stand-out as a key experience -8% of all respondents

Methods of Teaching Environmental Education and other Criteria 1 requirements (8% of all respondents).

## Stand-Out Experience

The environmental education learning experience, camaraderie and community; and practical teaching time also stand out.

12% of all respondents said something different including accounts of conquering fears to simply completing the program. Several respondents report on notable learning gains, especially in terms of identification knowledge (8 respondents). Five respondents like getting to “be a like a kid” and actually participate in the activities in the workshops. Four respondents are pleased to have received materials and resources to use. Another four could not pick one experience, as the whole program itself built-up and stood out as a whole.





# Stand-Out Experience Beside Specific Workshop



## Stand-out Certification Experience Beside Specific Workshop, etc.



**Figure 13.** Total number of responses ( $n = 137$ ) coded something other than a specific workshop, trip, conference, program, etc. in answer to the question, "What certification experience stands out to you?"

**Table 3.** Select quotes from surveys of certified environmental educators on their stand-out experience from the certification program.

Stand-out Experience	Sample Quote
<p><b>Specific workshop, etc.</b></p>	<p><i>I love butterflies and I was blessed to attend a butterfly pinning workshop in Raleigh at the Museum of Natural Sciences. I love the specimens I pinned, and then knew how to pin the butterflies I had already collected in the past. I love to decorate my home with them and take them to school to share with my students. They always say, "Wow, you really did this?" and I can honestly say "Yes", thanks to the class I took for environmental education certification.</i></p>
<p><b>Community partnership project</b></p>	<p><i>The certification experience that stands out for me has to be my community partnership project where we had a grand opening for our TRACK Trail. For the grand opening we had a great turnout and had great support from the community. A representative from Kids in Parks, along with the Friends of Raven Rock State Park and many park visitors were also in attendance. After a ribbon cutting ceremony, I took all of the kids on a hike using some of the materials for the TRACK Trail. I had a blast doing the hike with all of the energy from the kids in attendance and they were so excited to be there.</i></p>
<p><b>Workshop instructors</b></p>	<p><i>I especially enjoyed all of the sessions I took from Tanya Poole. She's an especially engaging and knowledgeable educator and I felt every class with her was worthwhile. I especially enjoyed her bat workshop held at App State.</i></p>
<p><b>Criteria 3/Site visits</b></p>	<p><i>Visiting the Pocosin Lakes National Wildlife Refuge was the most awe-inspiring: seeing my first wild bobcat, being within 60 feet of black bears, hearing and feeling the roar of 10,000 wings as a flock of snow geese takes off. I had visited places like Yellowstone and Muir Woods and experienced America's majesty, but figured it was all out West. Having this experience in North Carolina made me realize just how amazing our state is.</i></p>
<p><b>Criteria 1/MOTEE</b></p>	<p><i>The MOTEE. I took this course after 2 years into the EE Cert process. I have been teaching school programs for the past 14 years, prior to beginning the NC EE Cert process. But it was during the MOTEE course that I had my "AaaHaa! Moment". It was then that I learned how to create lessons for formal teachers to assist them with meeting their science curriculum needs according to the NC Dept. of Public Instructions. I had actually dreaded this EE requirement and it ended up being one of my favorite EE experiences!</i></p>
<p><b>Criteria 2/EELE</b></p>	<p><i>The certification experience that stands out for me is Criteria II: Outdoor Experiences. Not being originally from North Carolina, this requirement enabled me to experience habitats outside of those that were familiar to me. It also helped me relate information to my students, and it led to me being able to take my university students on field experiences.</i></p>

# Community Partnership Project



The majority of respondents build trails, structures (e.g., amphitheaters), weather stations, etc. for their community partnership projects (50 respondents).

A large group (38 respondents) also create lessons, curriculum, and materials – such as “EE Backpacks” that can be checked out to use when exploring a natural area.

36 respondents created events, organizations, or clubs that repeat over the year or annually.

27 educators establish a garden, including pollinator and rain gardens. Educators also create programs (22 respondents), run restoration or conservation projects – like pulling invasive species (18 respondents); build and install animal homes – like bat boxes (17 respondents); and teach or lead pre-existing programs.

# Community Partnership Project – Major Theme



## Major Theme of Respondents' Community Partnership Project

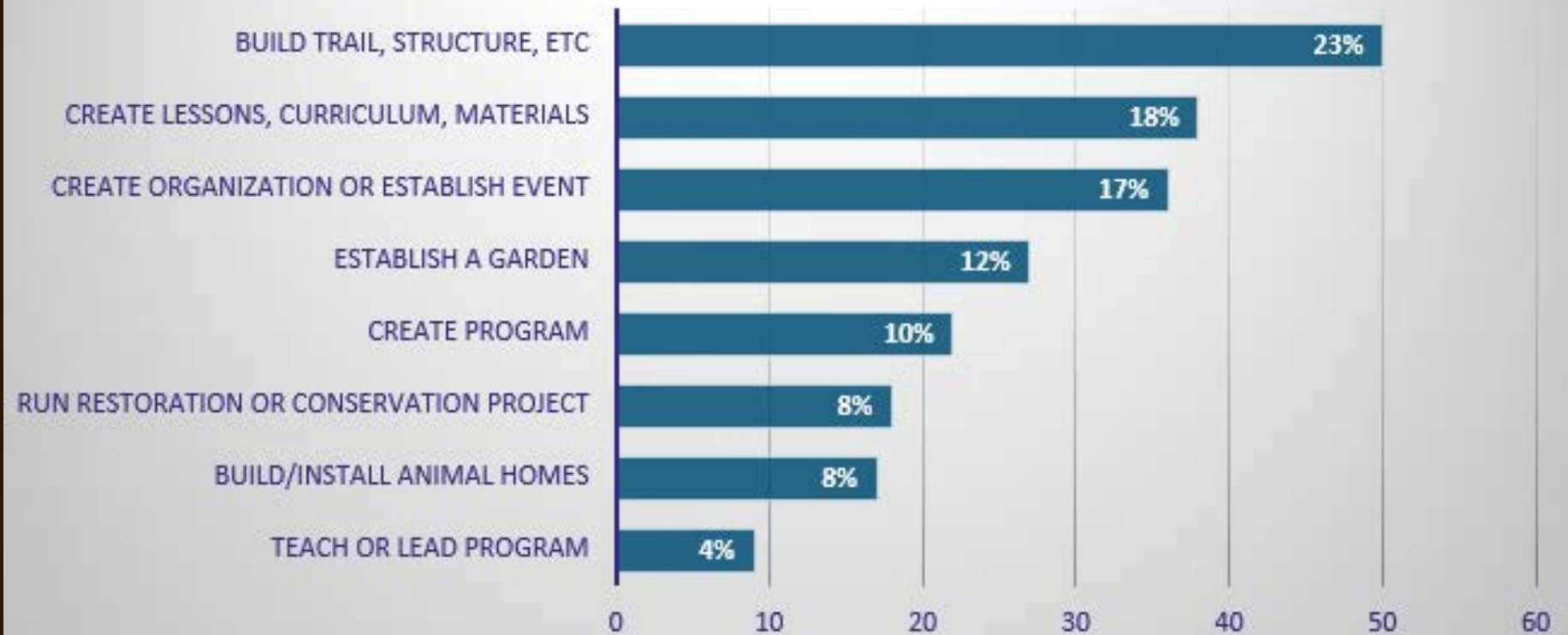


Figure 14. Percentage of respondents that mainly engage in each type of community partnership project.



## Major Partners in Community Project

Respondents' have a variety of major partners in their community partnership projects

Schools (PreK-12) are the most popular partner, with 25% of respondents working with schools in some capacity. For instance, an educator may have installed bird boxes on school grounds, or they may have enlisted students to help build and install the boxes.



## Major Partners in Community Project

20% of educators worked with non-profits/NGOs or nature preserves. 20% of educators partner with a local, state, or national park in their projects.

Twenty-three respondents worked with libraries or government entities, like the North Carolina Arboretum.

8% of respondents worked with scout troops

The remaining 15% of respondents work with a variety of other partners, including from senior centers to private companies.



# Changes in Teaching Approach



Almost all respondents note that the certification program led to changes in their teaching approach.

More than 50% of our 217 educators **provide two or more** ways the program impacted their teaching approach.

64% of respondents note that the program influenced their teaching methods – such as using more hands-on techniques or inquiry-based lessons.

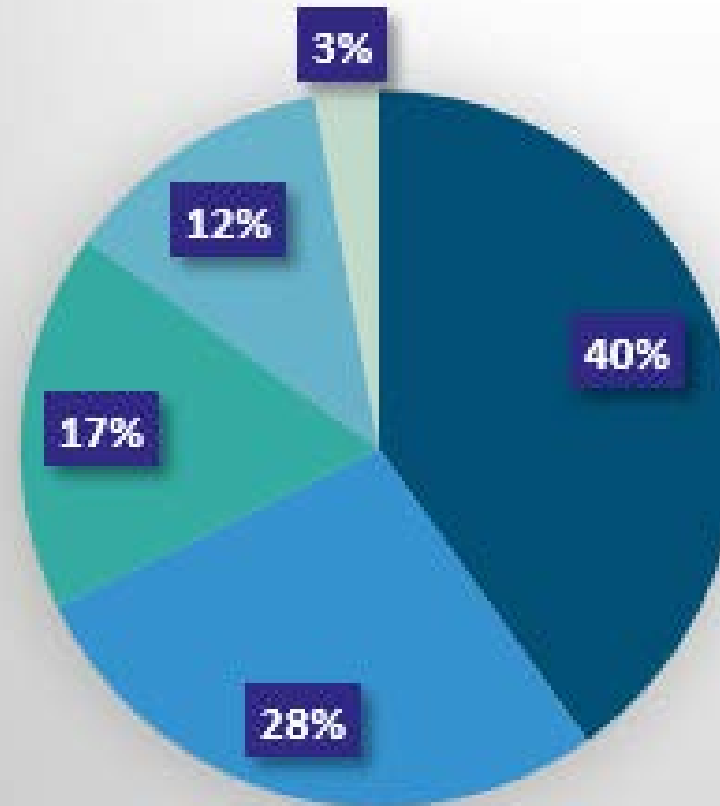
44 % of respondents also note the program improved their basic teaching knowledge or skills

25% of respondents additionally say the certification program improves their personal knowledge and confidence, and nearly 20% recognize the materials and lessons they received through the program as important aspects of their current teaching approach.

# Broad Changes in Teaching Approach



## Respondents' Broad Changes in Teaching Approach



- Teaching methods (e.g., inquiry-based)
- Basics (e.g., pedagogy, group management)
- Personal knowledge and confidence
- Materials and lessons
- Other (e.g., increase patience, utilize EE network)



# Changes in Teaching Approach

The most common response is that the certification program led them to use hands-on, creative, and/or interactive techniques in their teaching (23% of all educators). Over 20% also mentioned that the program helps them to learn or refresh basic teaching skills, methods, tips, and pedagogy. For instance, one educator mentions:

*“As I continued my EE certification, I began using the materials and activities found in the Project Wet, Project Wild, PLT, Aquatic Wild and NC Catch to teach the 5th grade NC Essential Standards. After one year my students EOG Science test scores went from a 46% pass rate to a 82% pass rate. I truly credit the EE certification program to my success.”*



## Changes in Teaching Approach

Many educators also note the program gave them tools to teach diverse audiences using multiple learning styles (18% of all educators), with 15% of all educators specifically noting that they learned to work with different or multiple age groups. Educators also mention the program helped them to teach holistically and show all sides of an issue in an unbiased manner. Educators also say this ties into not judging an audience for certain opinions. One educator expands on this:

*“Participating in the EE certification program has allowed me to understand that teaching others is not about your own personal views, it is about presenting the facts without bias and allowing the participants to process the data and form their own opinions, views and solutions...”*



# Changes in Teaching Approach



10% of respondents reflect that the program increased their overall comfort and confidence,

9% of all educators specifically call out the impact that increasing their own personal knowledge

Educators mention specific tactics, such as inquiry-based, active-learning and nature-play/exploration

# Changes in Teaching Approach



Respondents also say the EE certification program gave them the confidence to actually teach outside. Many of these were teachers in formal education.

5% of respondents indicate some other teaching change, such as: increased patience, working with other educators to increase impact, integrating NC essential standards into programming, and more.

Only one respondent states that the program did not change anything.

# Changes in Respondents' Teaching Approach

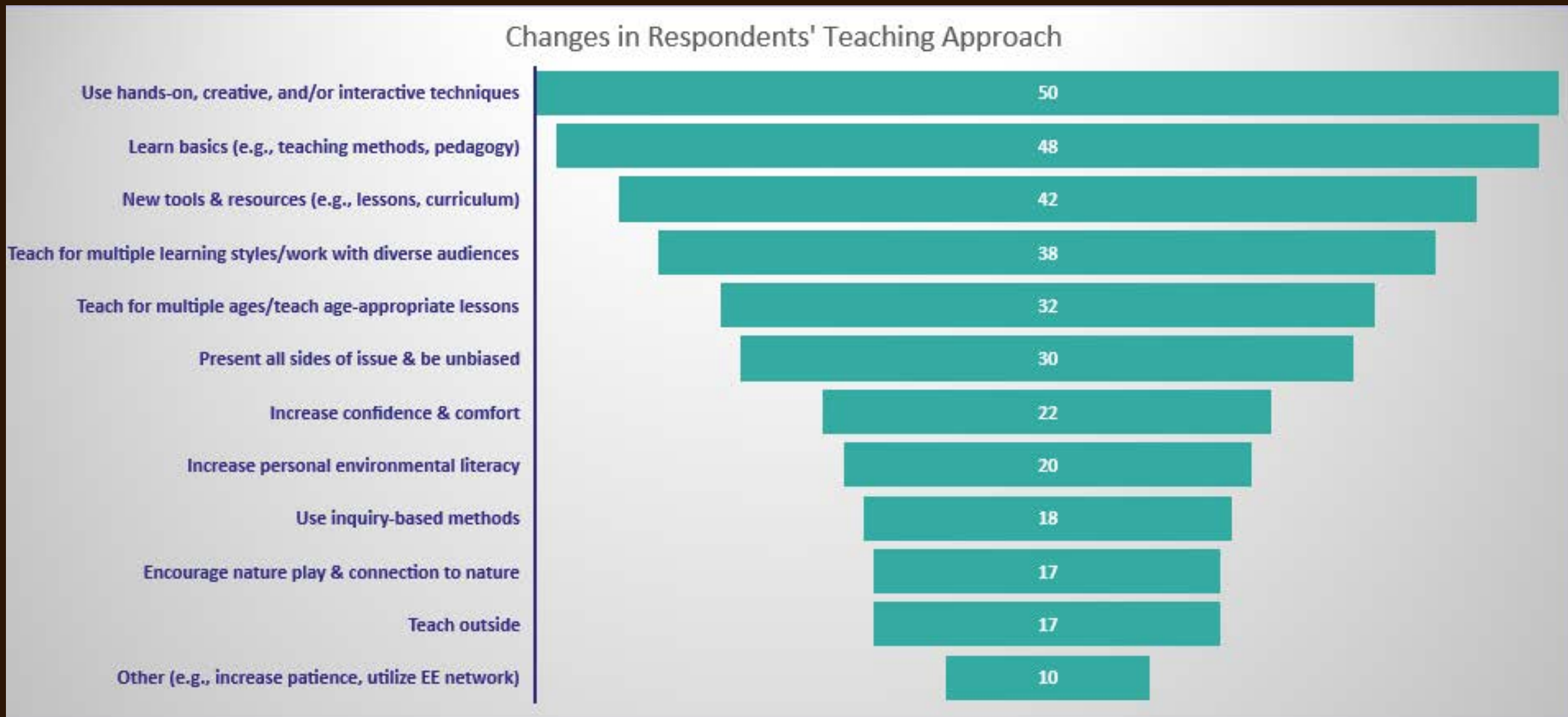


Figure 17. Number of responses (344 total) for each coded category in changes to 217 respondents' teaching approach after the certification program.

# Think About Environmental Issues

96% of respondents said the certification program changed the way most of them think about environmental issues

18% of respondents' state there was "no change" but then went on to describe a change in their views or actions. There were 370 separate responses on these changes.

The change educators describe varies widely, with no one answer getting most of the responses. Almost a quarter of educators feel the program help them teach more effectively about environmental issues.

Twenty-nine educators (13%) specifically focus on "educating, not advocating" when instructing.

They also emphasize the importance of taking a positive, solution-oriented approach when teaching and talking about environmental issues (8 educators).

# Think About Environmental Issues



A little over 20% of educators feel they now have more knowledge of environmental issues with eight describing a specific environmental topic they particularly learned about (e.g., native plants).

In learning about these issues, 17% of educators note they try to be more open-minded and sensitive to diverse views of environmental issues.

13 % of educators found that talking about environmental issues emphasized the need for EE and heightened their passion for EE



# Think About Environmental Issues



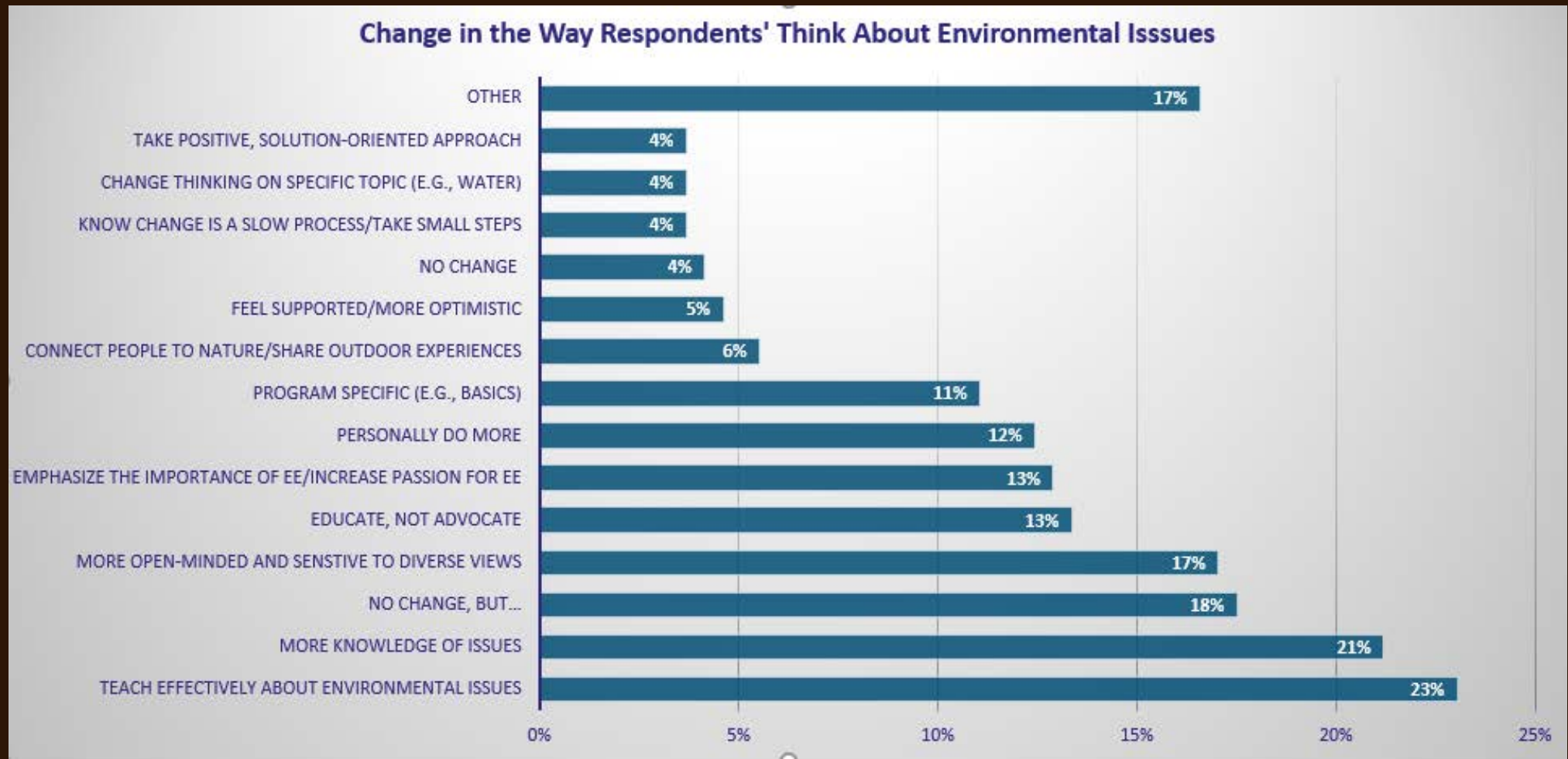
12% of respondents report that they now personally do more to help the environment (e.g., composting).

11% of educators call out specific aspects of the program, like the Methods of EE or the Basics of EE, as crucial for changing their thoughts on environmental issues.





# Think About Environmental Issues



# Think About Environmental Issues



**Figure 19.** Number of responses ( $n = 36$ ) for each response coded "Other" in changes to respondents' way of thinking about environmental issues after the certification program.

## Ways to Improve the Program



Educators have a variety of suggestions for improving the program.

The largest portion (29% of educators) had no suggestion for improvement

Educators most frequently want workshops offered closer to them (26% of all educators)



## Ways to Improve the Program

20% of the responses focused on changes to Criteria 1 Instructional Workshops.

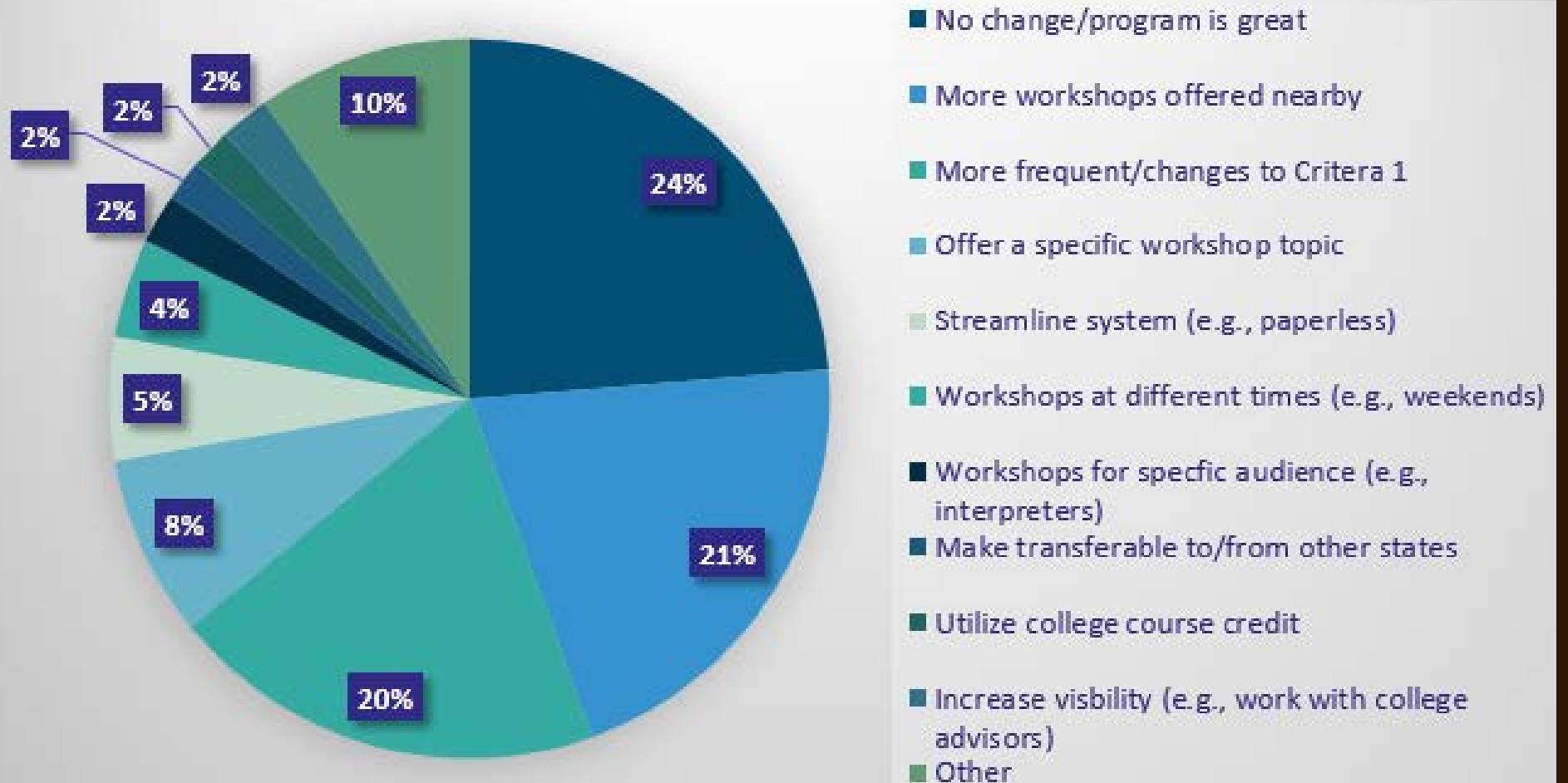
Ten percent of educators wish that a specific topic was covered in a workshop (e.g., climate change, cultural history of NC).

In particular, seven educators look for workshops that went further in-depth on teaching methods and how to adapt programs to outdoors



# Ways to Improve the Program

## Respondents' Suggested Ways to Improve Program





## Ways to Improve the Program

5% of responses focused on streamlining the online certification system through creating an app, creating an FAQ page, offering examples of Community Partnership Projects, and providing an area to give feedback on instructors.

Twelve educators want workshops at different times, ranging between weekends and weekdays, and six educators desire workshops for specific audiences – like nonformal educators or park rangers.



## Ways to Improve the Program

Smaller numbers of responses focus on making the certification transferable to/from other states, utilizing college courses for Criteria credit, and increasing the visibility of the program through enhanced marketing.

Respondents especially encourage the program to improve marketing to teachers and college students, through working with college advisors.



## Ways to Improve the Program – Criteria I Workshops



- Respondents had many specific suggestions for Criteria 1 Workshop/Methods of Teaching Environmental Education Workshop
- The most common suggestion was to offer for options, both in type and location. Eight respondents report the course was not helpful to them because it repeated information they already knew or was targeted at an audience they were not a part of (e.g., nonformal educators).



## Ways to Improve the Program – Criteria 1 Workshops



- Five educators suggest having separate MOTEE classes for formal and nonformal educators. Others recommend adding a component, such as youth development to the MOTEE, or a class (e.g., Master Naturalist) to Criteria 1.
- The remainder suggest adding teaching component to MOTEE, requiring fewer classes, encouraging facilitators to post the classes at least 3 months in advance, and making the approval process for new Criteria 1 workshops easier.

# Other Suggestions

Suggestion	Total Count	Percentage
More workshop options	4	15%
Create certification tracks (e.g., formal, interpretation)	2	8%
Shadow/mentorship component	2	8%
Make fewer hours	2	8%
More networking opportunities	2	8%
Longer Criteria 2 workshops	2	8%
Add testing	2	8%
Increase maximum hours for one program	2	8%
Carpooling options	1	4%
Add mission/goal/objectives of certification program	1	4%
Recognize outstanding instructors	1	4%
Increase enrollment period	1	4%
Will discuss in person	1	4%
Get grant money to cover costs for enrollees (e.g., travel)	1	4%
Workshops have better/longer cancellation	1	4%
Allow credit for more than 1 year before enrollment	1	4%
<b>TOTAL</b>	<b>26</b>	

**Table 4.** Number of responses and percentage of response from total ( $n = 26$ ) for each response coded “Other” in suggestions for ways to improve the certification program.



# Conclusions

Career Advancement

Community Leadership/Engagement

Gain content knowledge, new hands-on techniques, resources and curriculum

- Provides practice in EE teaching methods
- Increases environmental literacy or content knowledge

Enhances the ability of educators and organizations to provide EE programs which benefits local communities and invests in the future of North Carolina's environment



# Conclusions

Get Outdoors and Explore Nature

Gain a Widely Recognized Professional Credential

Grow as a Professional

Visit nature centers, parks, gardens, forests, museums, aquariums, zoos and more..

Gain Confidence Teaching Outdoors



# Questions/Suggestions?



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