



Environmental Education: Content Analysis
of the primary school World Knowledge
textbooks in Azerbaijan

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Agenda

1

Introduction

*What is Environmental
Education*

2

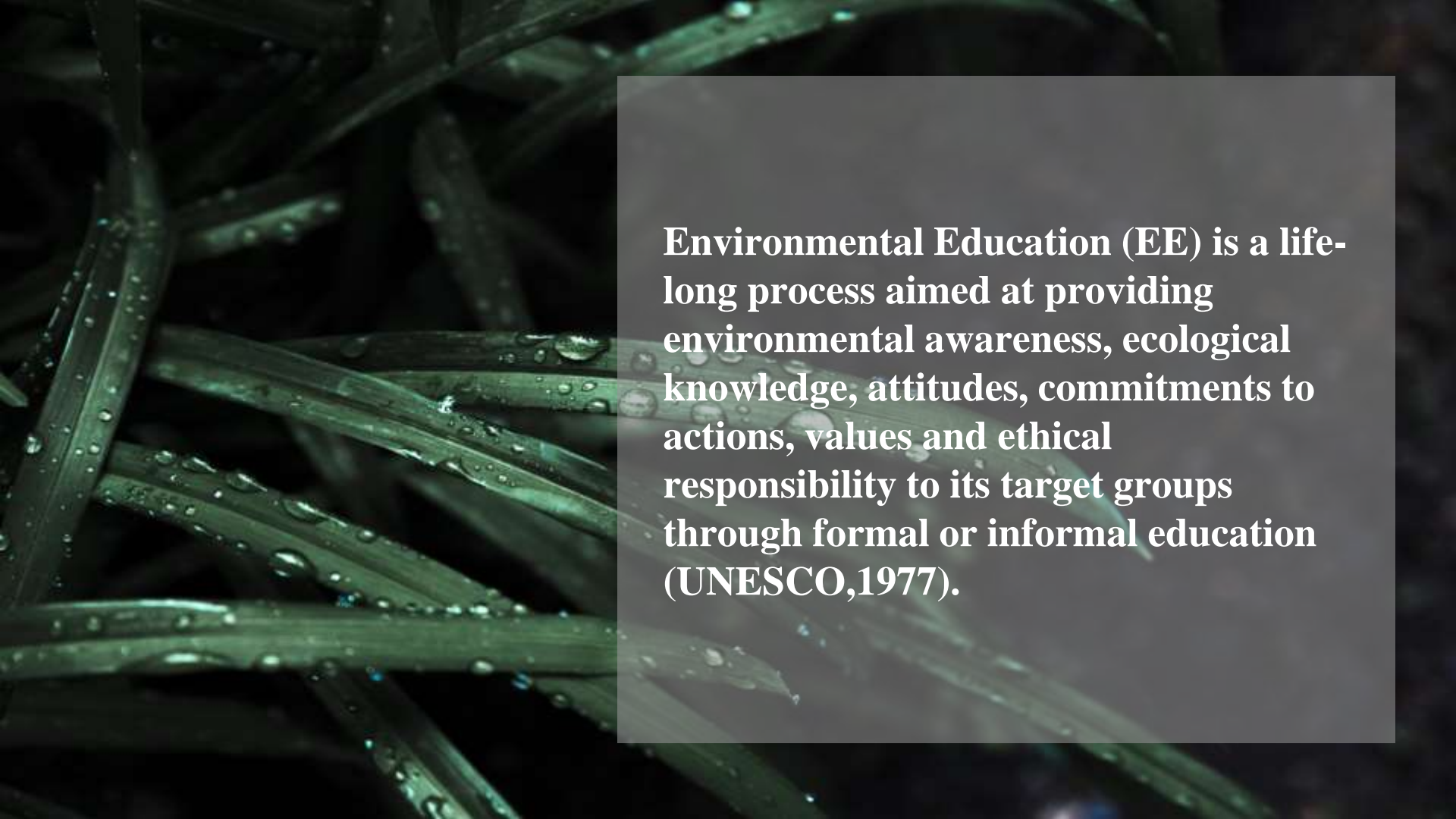
Presentation

*Research Questions
Purpose of Study
Theoretical Framework
Methodology
Findings*

3

Conclusion

Recommendations

A close-up photograph of green grass blades, likely from a lawn or field, covered in numerous small, clear water droplets. The blades are oriented diagonally across the frame, and the lighting creates a soft, natural glow. The background is dark and out of focus, emphasizing the texture and moisture of the grass.

Environmental Education (EE) is a life-long process aimed at providing environmental awareness, ecological knowledge, attitudes, commitments to actions, values and ethical responsibility to its target groups through formal or informal education (UNESCO,1977).

Problem Statement

The protection of the nature and environment is considered as one of the priority issues all around the globe. However, weak public awareness hinders the protection of the nature and environment.

Environmental education is taught at a very young age to bring up responsible citizens not only in the world but also in Azerbaijan.

Although Azerbaijan makes effort to protect its environment and to restore its ecosystems, lack of awareness on environmental changes prevents progress of environmental protection (United Nations, Voluntary National Review, 2019).

Purpose of the Study

- to conduct content analysis on the primary school World Knowledge textbooks' topics on environmental education.
- to understand stakeholders' (a curriculum expert, a textbook author and a teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education



Research Questions

1. To what extent do the primary school World Knowledge textbooks' topics on environmental education cover Palmer's (1998) education *about, in, for* environment model?
2. To what extent do the primary school World Knowledge textbooks' topics on environmental education reflect Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions?
3. What are stakeholders' (a curriculum expert, a textbook author and a primary school teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education?
4. To what extent stakeholders' (a curriculum expert, a textbook author and a primary school teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education coincide with Palmer's (1998) education *about, in, for* environment model, Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions?

Theoretical framework

Palmer's education *about, in,*
for environment Model

About **knowledge**

In **awareness**

For **action**

Taylor's (2011) Environmental
Ethics

Duty

Obligation

Responsibility

Marx's (1844) Human Nature
Relationship

There is no life without
nature

Human depends on the
nature



Palmer (1998) education *about, in, for* environment Model

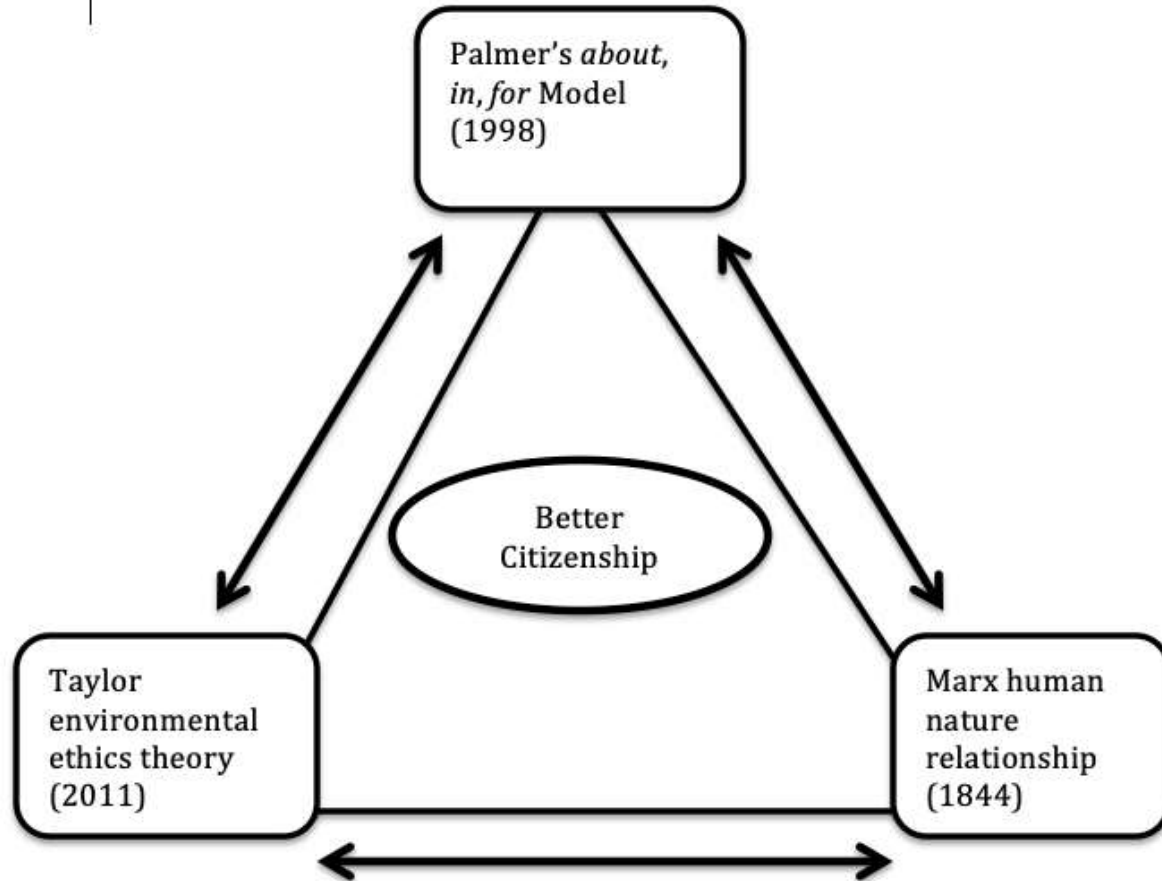


Methodology

- Exploratory qualitative content analysis
- **Document Review**
 - ✓ Content analysis of the 1st, 2nd, 3rd and 4th grade World Knowledge textbooks' topics on environmental education.
- **Interview**

 - ✓ Online semi-structured interviews
- **Interview data analysis**

Methodology



Participant Sampling and Recruitment



Interview

- ✓ convenient purposeful sampling
- ✓ random sampling



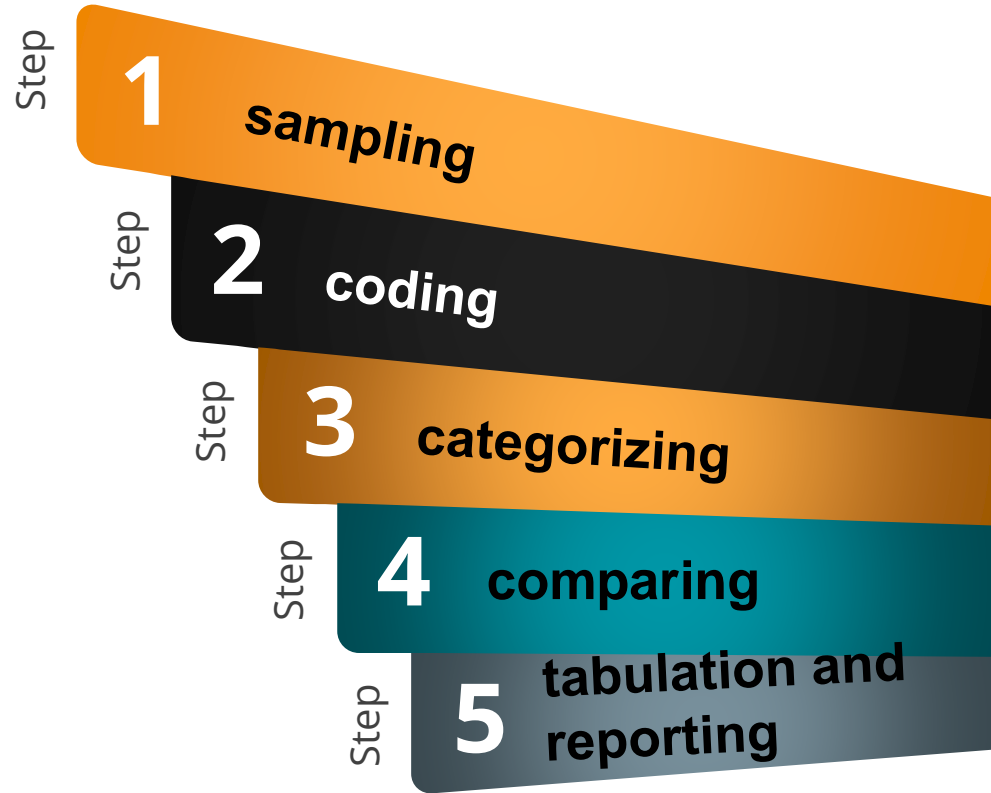
Participants

- ✓ the curriculum expert
- ✓ the textbook author
- ✓ the 2nd grade school teacher

Content Analysis

5

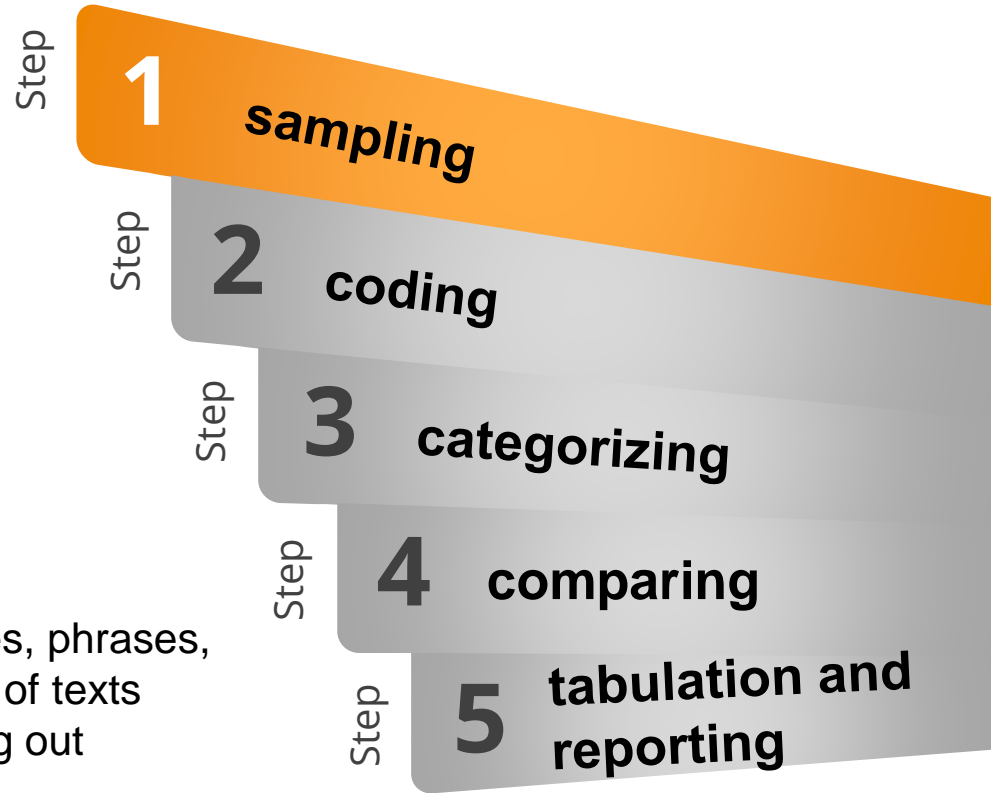
STEPS



Content Analysis

STEP 01

- relevance sampling
- determined the presence of certain themes, phrases, and sentences within bubble texts or sets of texts related to environmental education leaving out geographical content (Neunendorf, 2002)

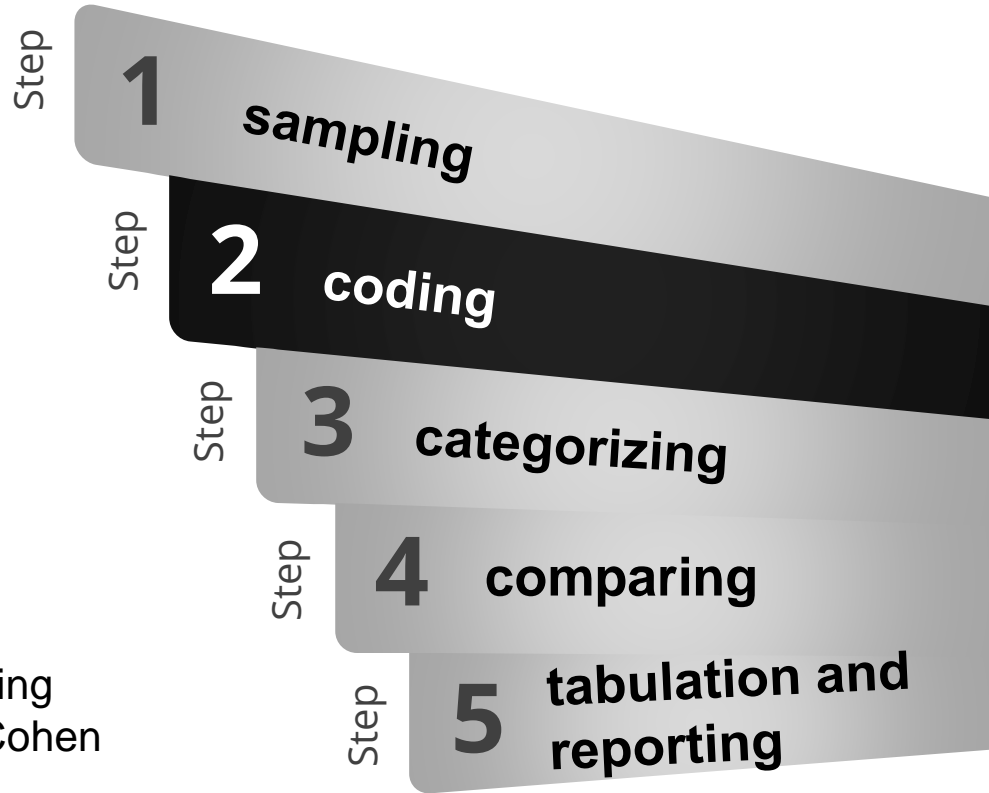


Content Analysis

STEP

02

I reduced and simplified the data emphasizing their specific features and created codes (Cohen et al.,2007)

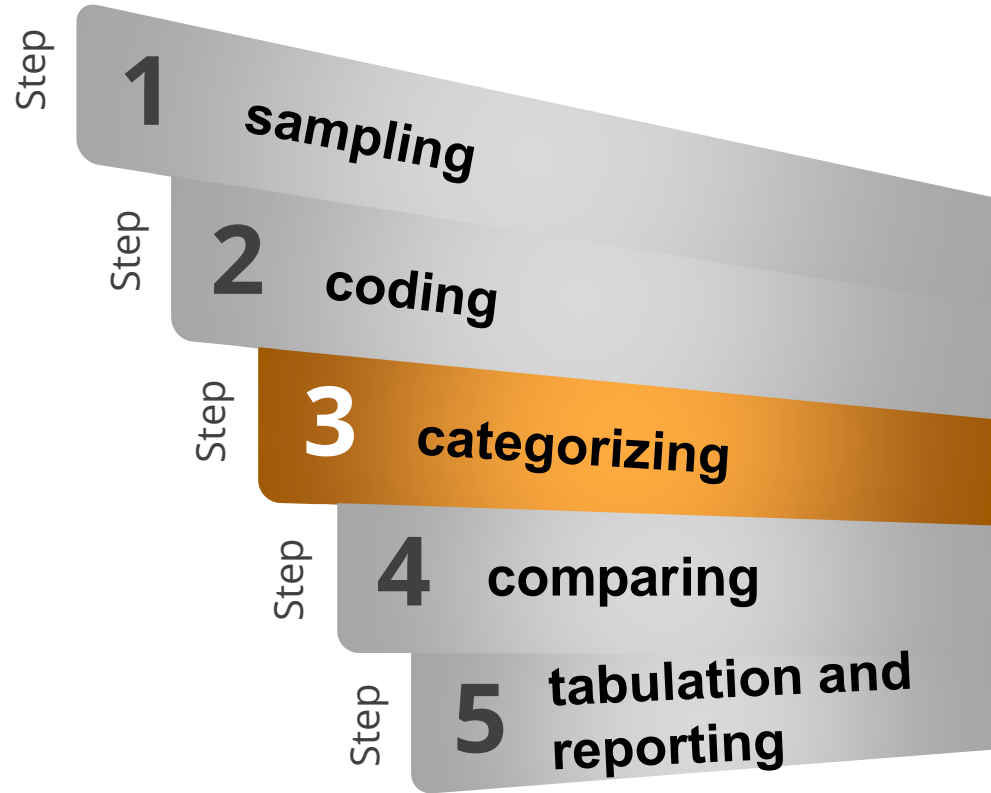


Content Analysis

STEP

03

I grouped those codes into meaningful categories and labeled them (Cohen et al.,2007)

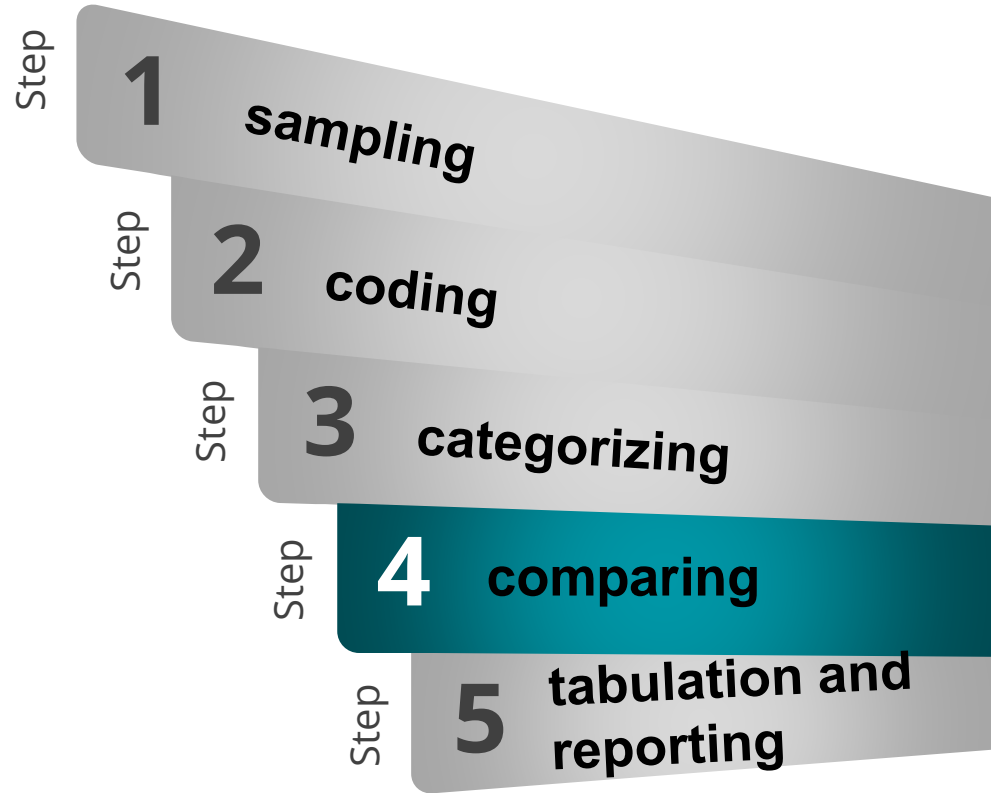


Content Analysis

STEP

04

I applied comparison to make connections between categories
(Cohen et al.,2007)

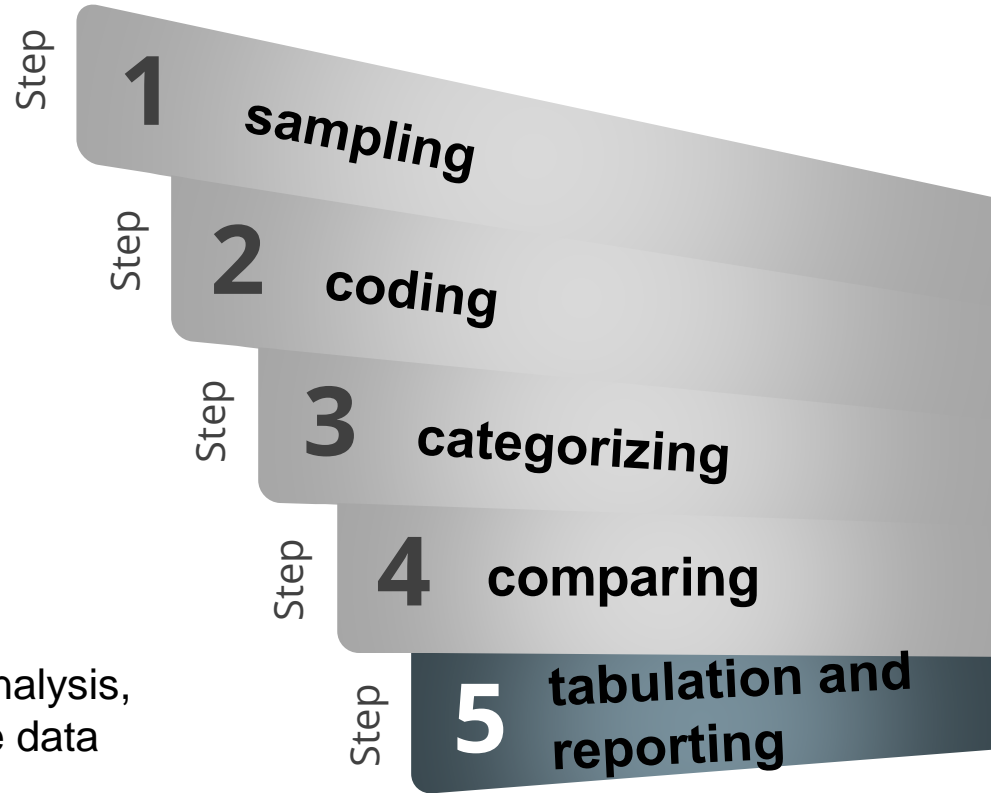


Content Analysis

STEP

05

On the basis of the results of the content analysis, I applied tabulation to statistically report the data (Neunendorf, 2002)





Findings

Research Question 1

To what extent do the primary school World Knowledge textbooks' topics on environmental education cover Palmer's (1998) education *about, in, for* environment model?

Knowledge

"I am water - there is no life without me". (WK1, p.12)

"Because green plants enrich the air with oxygen".(WK2, p. 34)

"Large factories and plants emit harmful gases, dust and other substances into the air during the production process". (WK3, p.33)

"Ecology is a Greek word derived from a combination of the words "habitat" and "science". WK4, p. 93)

Awareness

"These water and land areas are polluted by humans". (WK1, p.22)

"Some plants and animals become extinct". (WK2, p.38)

"More than half of the world's forests have been destroyed, greenery decreased over the years". (WK3, p. 47)

"As rivers and lakes, the main source of fresh water, become polluted, drinking water decreases". (WK4, p. 93)

Action

"We are going to plant a tree". (WK3, p.49)

"You can walk around and take notes. You can compile a text with a title "The state of the environment in our neighborhood". (WK4, p.95)

Research Question 2

To what extent do the primary school World Knowledge textbooks' topics on environmental education reflect Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions?

Environmental Ethics

“Let's keep it clean”] (WK1, p.23)

Plants and animals need to be cared for and treated”. (WK2, p.36)

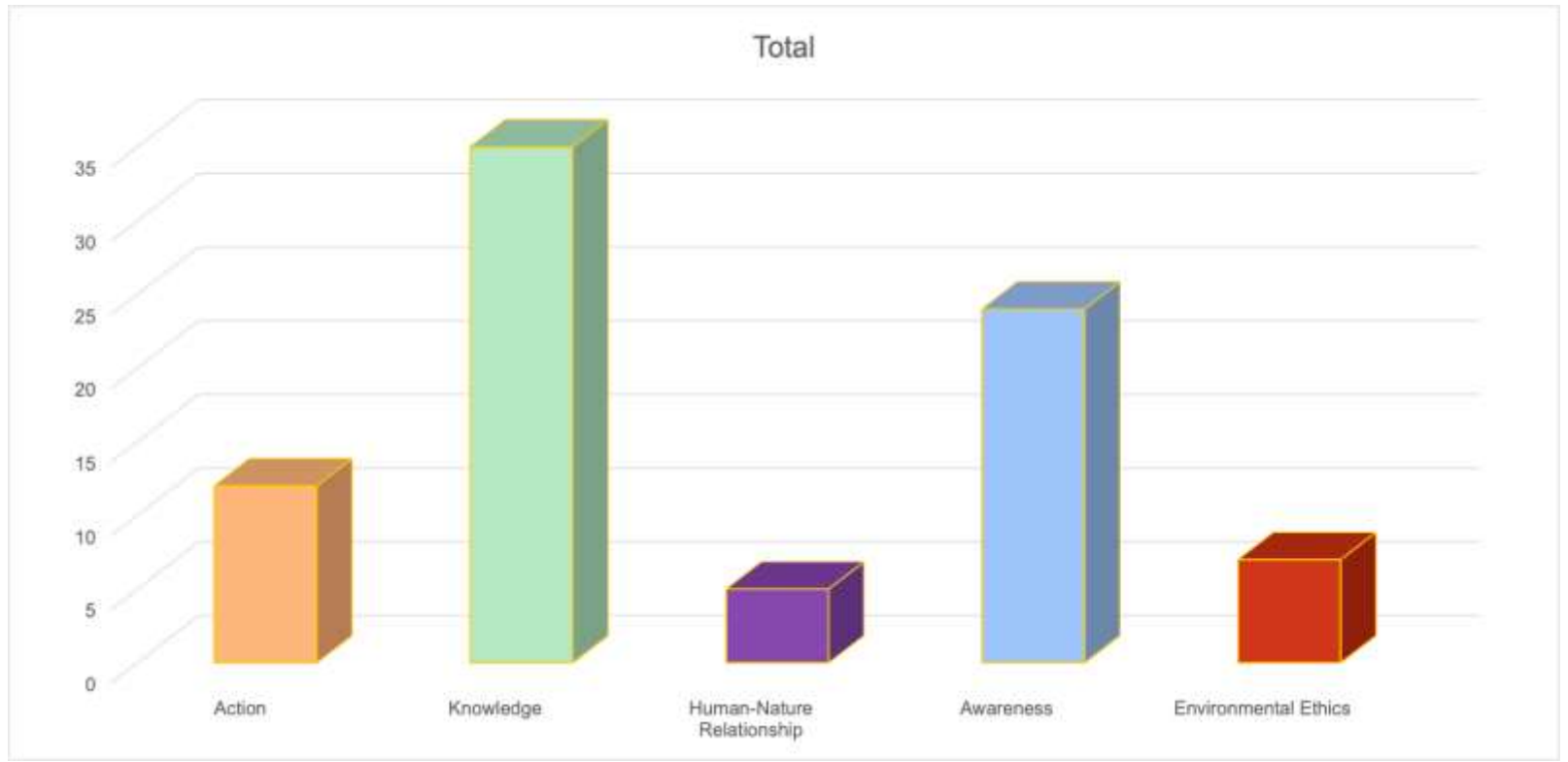
“People should use the Earth's resources sparingly” (WK4, p.94)

Human Nature Relationship

“We are the children of nature. Because all creatures in nature are constantly in contact with the environment”. (WK2, p.38)

“Inanimate nature-Animate nature, Animals-Plants, Human Nature”. (WK4, p. 23)

Note: “WK” - World Knowledge. “WK1” - the 1st grade World Knowledge. p.- number – page number



Frequency of emerging components – knowledge, awareness, and action, environmental ethics and human nature relationship.

Findings about the Primary School World Knowledge textbooks

Topics on Environmental Education

Awareness
Action

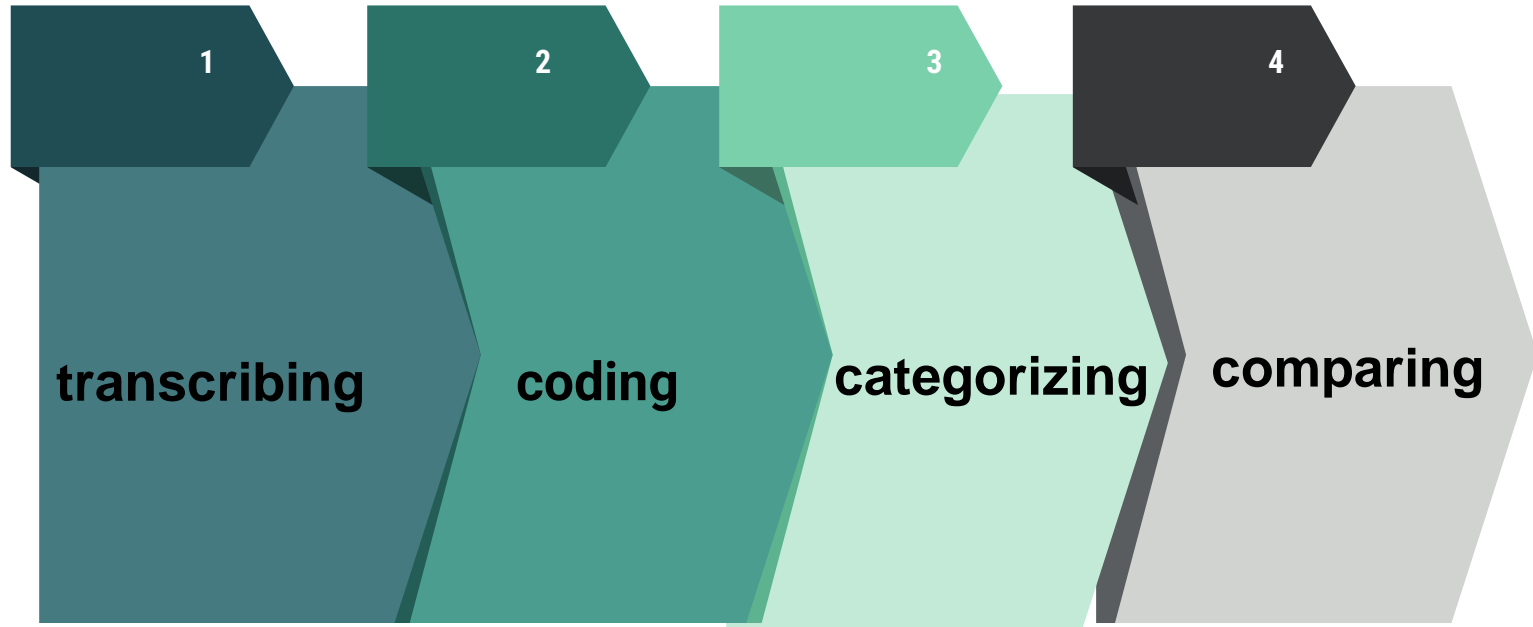
Environmental
ethics

Human Nature
Relationship



Knowledge

Interview Data Analysis



Research Question 3

What are stakeholders' (a curriculum expert, a textbook author and a primary school teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education?

- sensitive and caring approach to the nature and environment
- the 2nd grade school teacher's experience - planted flowers in the pots with the students in a class.
- due to the children's young age, they were given basic knowledge on the nature and environment in 1st and 2nd grades

Research Question 4

To what extent stakeholders' (a curriculum expert, a textbook author and a primary school teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education coincide with Palmer's (1998) education *about, in, for* environment model, Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions?

Knowledge

"Students recognized the processes taking place in the environment" (The curriculum expert)

"Learned the impact of human activities on the environment, pollution, local environmental problems" (The textbook author)

"Water is life, we give knowledge about the importance of water" (The 2nd grade school teacher)

Awareness

"Students acquire knowledge and observe natural phenomena with a sensitive and caring approach to the nature and environment" (The curriculum expert)

"Investigating contributes to appropriate skill development, and students acquire the habits of a good experimenter" (The textbook author)

"Trees can be uprooted and planted in a new area, instead of cutting down them"(The 2nd grade school teacher)

Action

"We planted flowers in the pots with the students in a class". (2nd grade school teacher)

"Through **We go to plant a tree** and **Area plan** tasks students learned how to plant trees". (The textbook author)

Research Question 4

To what extent stakeholders' (a curriculum expert, a textbook author and a primary school teacher) perceptions and experiences about the primary school World Knowledge textbooks' topics on environmental education coincide with Palmer's (1998) education *about, in, for* environment model, Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions?

Environmental Ethics

"Water is life, to protect water, you must use water sparingly" (the 2nd grade school teacher)

"We must protect nature and this notion must be instilled in children from an early age" (the textbook author)

"The textbook teaches students a simple interpretation of the importance of keeping clean the environment, house, classroom, yard, air, water" (The curriculum expert)

Human Nature Relationship

"Nature is our mother" (the curriculum expert)

Findings about the Interview data Analysis on Environmental Education



Validity

I conducted one 45- minute pilot interview to validate the protocols.

I applied triangulation to generalize conclusions across both sources.

Triangulation assisted to distil my findings (Berkowitz 1997; Miles & Huberman, 1994).

To build overarching themes in the analysed data and finding adequate explanations for the research findings, I started to do interpretation.

Table 1

Code Mapping: Three Iterations of Analysis (to be read from the bottom up)

| Code mapping for content analysis of the primary school world knowledge textbooks' topics on environmental education and interview data (Research Questions 1, 2, 3 and 4) | | | | |
|---|--|---|--|---|
| RQ#1: the textbooks cover Palmer's (1998) education <i>about, in, for</i> environment model? | RQ#2: The textbooks reflect Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions? | RQ#3: Stakeholders' perceptions about textbooks | RQ#4: Stakeholders' perceptions about textbooks coincide with Palmer's (1998) education <i>about, in, for</i> environment model, Taylor's (2011) environmental ethics, and Marx's (1844) human nature relationship dimensions? | |
| (THIRD ITERATION: APPLICATION TO DATA SET) Palmer's Model: Knowledge, Awareness, Action Taylor's theory: Environmental ethics Marx's theory: Human nature relationship | | | | |
| (SECOND ITERATION: PATTERN VARIABLES) | | | | |
| 1A. Gets knowledge about the importance of factors polluting the atmosphere, water, plants and oxygen 1B. Gets knowledge about sources that pollute the environment, water, soil, plants, birds | 2A. The impact of human activities on the atmosphere, the importance of water and vegetation 2B. To instill in children a desire for a sensitive, caring and attentive approach to nature, the impact of human activities on nature, importance of water and plants | 3A. We are going to plant a tree, area plan project 3B. Idea expression, discussion, listening, presentation, differentiation, interview, appeal, tree planting skills | 4A. The usage natural resources sparingly, keeping the environment clean 4B. Ecology and keeping nature clean, its protection | 5A. Us being nature children Nature is our mother |
| (FIRST ITERATION: INITIAL CODES/SURFACE CONTENT ANALYSIS) | | | | |
| 1A. Atmosphere polluting factors 1A. Water is life 1A. Plants, water and oxygen 1A. Importance of water and plants 1B. Sources that pollute the environment 1B. Earth, water, land areas, migratory birds 1B. Water is life | 2A. The impact of human activities on the atmosphere- 2A. Importance of water and vegetation 2B. Care + sensitiveness = love 2B. Sensitive and attentive attitude to nature 2B. To create a | 3A. We are going to plant a tree 3A. Block plan project 3B. Presentations 3B. Projects 3B. Ways of tree planting | 4A. Economical usage of natural resources 4A. Keep the environment clean 4B. Ecological cleanliness 4B. To protect the nature 4B. Protect the environment | 5A. We are children of nature 5B. Nature is our mother |

Table 2
Matrix of Findings and Sources for Data Triangulation

| Major Findings | Sources of Data | |
|---|-----------------|----------|
| | D | I |
| Theme 1: <i>Knowledge</i> | X | X |
| Theme 2: <i>Awareness</i> | X | X |
| Theme 3: <i>Action</i> | X | X |
| Theme 4: <i>Environmental ethics</i> | X | X |
| Theme 5: <i>Human nature relationship</i> | X | |

Note. I = Interview, D = Document

The comparison of the content analysis of the primary school World Knowledge textbooks' topics on environmental education with the findings of interview data analysis



TEXTBOOKS

- *knowledge* component was prioritized
- *awareness, action, environmental ethics* and *human nature relations* was limited
- environmental ethics
- human nature relationship – none of the textbooks comprised sufficient information



INTERVIEW

- *awareness* component was prioritized along with *knowledge* component
- *action* component in the 2nd grade
- environmental ethics
- human nature relationship – only curriculum expert acknowledged

Recommendations

Action-oriented

- Increase awareness
- direct experience with nature
- useful for the nature and environment
- have a positive impact on their healthy growth

Outdoor activities

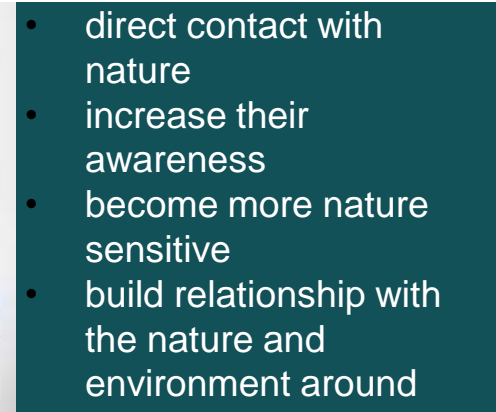
- direct contact with nature
- increase their awareness
- become more nature sensitive
- build relationship with the nature and environment around

Models/ Theories

- Palmer's (1998) environment *about, in, for* model
- Environmental ethics
- Human nature relationship

Pre-school

influence their growth as a responsible citizen towards the nature and environment.



**Thank You for
your listening!**

