LEARNING for CHANGE AND INNOVATION

WORLD CONGRESS

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Education

Action Research as a Teaching Method in an Environmental Education M.Ed. Course
Fostering Environmental Citizenship

Noa Avriel-Avni, Dead Sea & Arava Science Center
Dafna Gan, Seminar HaKibbutzim Teachers College
Course Framework

- Social-ecological systems
- Interpretive and critical paradigm
- Environmental citizenship
- Action research

Introduction
The concept of environmental citizenship

Civic action is defined as a pro-active approach of individuals or groups in the public arena for the accomplishment of common goals (Chawla & Cushing 2007).

Similarly, the term "environmental citizenship" means self-perception as an integral part of the environment and a willingness to take action to render it sustainable (Dobson, 2003).

The nature of environmental dilemmas, which often transcends national borders, is such that it defines “environmental citizenship” as global citizenship – rather than citizenship a particular state (Dobson. 2003; Berkowitz, Ford & Brewer, 2005).

The environmental citizen remains committed to the basic tenets of liberalism (especially freedom of the individual) together with an active participation (republican in nature) in civic-environmental matters (Barry, 2006).
Promoting environmental and active citizenship should be achieved by development of:

• critical thinking,
• value awareness,
• problem solving skills,
• initiative thinking

These goals emphasize the need to change the educational approach:

• Exposing students to knowledge is essential but not sufficient for fostering citizens who have the drive and skills to act for a sustainable future (Berkowitz, Ford and Brewer, 2005).

• Empowering students, as one of the major principles of sustainable development, means that someone else has to give up that power (Smyth, 2006; Burns and Worsley, 2015).

• It means questioning the traditional division of authority between teachers and students and requires a new definition of the teachers’ role (Keiny, 2002).
• When considering the environment as a social-ecological coupled system, the common goal of ES can be defined as the resilience of the socio-ecological system; namely, its ability to absorb shocks while maintaining its essential functions.

• When changes cause undesirable conditions, resilience refers to the ability to self-organize into a healthier state (Plummer and Armitage, 2007).

• We use sustainability to refer to the preservation of system flexibility to adapt to changes, but not necessarily the preservation of the status quo (Griggs et al., 2013)
Semester A

1. Identifying social-ecological dissatisfaction
2. Initial analysis of the research field
3. Review of relevant literature
4. Planning action and research tools

Methods
Thinking together

Think about 10 thoughts from the previous week.
What did we think about last week:

<table>
<thead>
<tr>
<th>Relations</th>
<th>yesterday</th>
<th>today</th>
<th>tomorrow</th>
<th>in a week</th>
<th>in a year</th>
<th>in ten years</th>
<th>in 100 years</th>
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</thead>
<tbody>
<tr>
<td>Time</td>
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</tbody>
</table>
What disturbs students?

Waste accumulation is a key factor in the students’ perception about environmental interference (62% of the students)

What bothers us?

- Smoking inside the school area
- A waste of water
- Electrical waste
- Wasteful use of paper
- Paper and bottles - thrown away

Issues raised by students in teams n=24
Semester B

Data collection and analysis of the field

Taking action

Data collection and analysis of the change

Reflection

3
Content and morphological analysis of the maps

1. Mapping in teams of five students

2. Personal - initial analysis of the research field

3. Personal mapping after data collection and in light of comments and insights received from classmates and teachers
What are the problems, barriers to change and the prospects to make a difference?

Garbage

Lack of recycling containers

Emptying trash cans at an insufficient rate

Dirty classrooms

Outside factor: The local council

Internal factors:
- Lack of role model given to follow
- Lack of school education
- Not caring for the dirty surrounding
- Lack of motivation

Outcomes:
- A generation that is not connected to the environment
- Environmental hazards: contamination of air and water sources, diseases, biodiversity

Ways to change:
Positive feedback - the teacher serves as a role model: picks up waste
Positive feedback - installation of recycling containers in classrooms reduces the amount of garbage that is not biodegradable
Mapping by teams:

What bothers us?
Paper and bottles - thrown away because of unawareness and lack of culture
  
  Lack of recycling containers
  
  Lack of separation of garbage

  Garbage cans crammed with garbage spills over

Positive feedback: when teachers pick up litter, students imitate them.

Barriers to change
- Lack of understanding of the environment by the younger generation.
- The children are self-centered and unaware of what is happening around them
- The children are not familiar with the world of fauna and flora

Possible reasons:
1. Habits from home
2. Social norms
3. Lack of models to imitate
4. Not enough environmental education in school
Initial mapping by students of the action research field

Objectification of the snails

Results

Population

Attitude to animals

Culture

Snails

Attitude to the weak

Conclusions

Discourse

Being active

Delivering knowledge
Me as an external actor in the system

My goal is to improve the system

Components that I can influence to make a difference in my system.

Barriers to change. Factors that maintain the current situation in my system.

After school club
Apartment with window bars; without a courtyard

Motive

Lack of open spaces
Lack of funds

Ministry of Welfare
Local council

Apartment owner
Neighbors

Children
Teacher

After school club

Components that I can influence to make a difference in my system.

Barriers to change. Factors that maintain the current situation in my system.
Outdoor education
What do students perceive as a problem and the solution?

- Delivering knowledge & Raising awareness
- Much garbage at school
- Consumption of brands
- Excessive use of paper
- Not enough recycling
- Wasteful consumption
- Smoking in public spaces

Results
What do students perceive as a solution?

- Scruffy place
- Children are not related to the environment
- Lack of environmental values

Outdoor education
What do students perceive as a solution?

- Lack of knowledge
- Using paper
- Computerized infrastructure
- Draft pages
- Reuse
- Printing
- Education class
- Copies
- Book loan program
- Circulars to teachers
- Circulars to parents
- Worksheets
- Examinations
- Guidelines for exam
- Professional teachers consumer
- Educators consumer
- Division Director
- Secretariat consumer
- Housekeeper consumer
- A cleaner consumer
- Pupils
- Parents
- Scouts
- Student council
- Consumerism
- Comfort
Excessive use of paper

Lack of knowledge

Results
Excessive use of paper

Personal mapping after data collection and in light of comments and insights received from colleagues and teachers

Marking processes where I can intervene and influence
Reducing consumption instead of just recycling

Personal mapping after data collection and in light of comments and insights received from colleagues and teachers

A process which enhances the existing situation

A process that strengthens change
What is needed to develop educator skills for environmental citizenship?
Conclusion

• Student's initial inclination was to identify littering as the main environmental problem - local and short-term issues.
• There was also a tendency to perceive lack of knowledge and awareness as main reasons for environmental problems.
• Group and personal training of research field mapping, as well as feedback from colleagues and lecturers, demonstrated a more complex picture.
• The mapping made the action research focused and gave a more suitable solution to the dissatisfaction the students experienced.
• Lecturers had a vital role -
  • Challenge the simplistic view of the problems
  • Demonstrate a dogmatic approach to solutions
  • Encourage students to identify structures and dynamics that maintain unwanted situations
  • Review drafts and give constructive feedback
• The supervisors were required to constantly examine the students' place within the process and to offer flexible guidance, according to the students’ progress in understanding the field.
• The students' change in perception was noticed, particularly in the maps they constructed.
• The use of field mapping may be a key tool in the development of active citizenship and sustainability. This should be used alongside action research and systematic reflection.