

# How Do Pre-Service Teachers See Their Competence in Organizing Field Trips?

Dr. Anne-Kathrin Lindau, Dipl. Biol. Alexander Finger, Prof. Dr. Martin Lindner

## 1. Introduction

### Theory

- Field trips are an important method in Geography and Biology education
- Pre-service teachers have a lack of experiences regards field trips

### Topics

- Authentic learning environment
- Fostering of professional, methodical and social skills
- Direct contact with spatial structures and processes

### Implementation

- Early implementation of field trip education in university education

## Research Questions

1. How to support pre-service teachers skill development?
2. How to generate first hand experience?
3. Are pre-service teachers able to reflect their own skill development?

## 2. Aims of the Project

### University

- Forstoring pre-service teachers skills in planing and conducting field trips.
- Supporting pre-service teachers to gain skills for field work (through first hand experiences).

### School

- Increase the number of field trips in Biology and Geography
- Support for in-service teachers to develop their professional skills

Cooperation between University and School



## 3. Study Design

### Seminar: Theoretical background

- Introduction to field trip didactics
- Development of a field trip concept
- Individual consultations

### Content of the field trip

- Analysis of:
- Earth as a System (Geoecosystem)
  - Ecosystem (Bioecosystem)
  - European waterquality standards

### University Seminar Topics

### Seminar: Development of methods

- Development of material in small groups
- Method training in the field
- Organise and conduct field trips

**Group 1:**  
16 pre-service teachers  
87 students, 11th grade  
Pre-service teachers mentor a station each

### Data Collection

Questionnaire 1

Monitoring during field trip

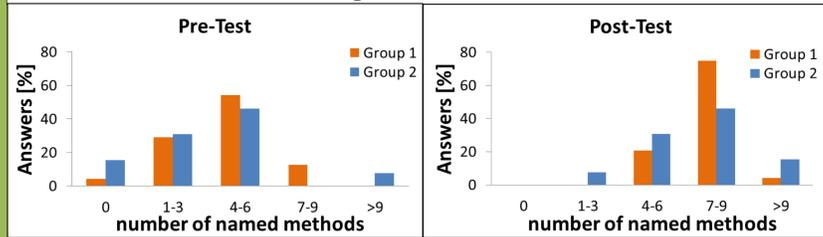
Questionnaire 2

**Group 2:**  
25 pre-service teachers  
108 students, 9th grade  
Pre-service teachers mentor a group each



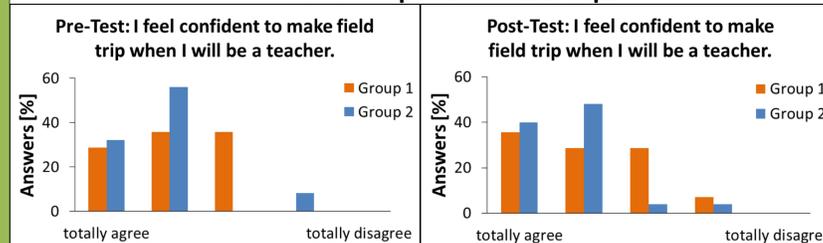
## 4. Findings

### Knowledge on Field Methods



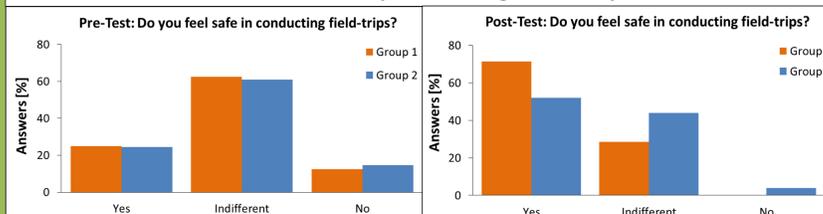
Number of methods for field trips mentioned in pre- and post-test (Group 1: N=16, Group 2: N=25)

### Motivation to perform Field Trips



Self-reflection regarding the motivation to perform field trips in pre- and post-test (Group 1: N=16, Group 2: N=25)

### Self esteem in performing Field Trips



Self-reflection on performing field trips in pre- and post-test (Group 1: N=16, Group 2: N=25)

## 5. Conclusions and Outlook

### Group 1

- Enhanced field method knowledge (skills)
- Specialised (field methods of one station)
- Minor organisational and methodical effort
- Short interaction with students
- Lower stress level and responsibility

### Group 2

- Enhanced field method knowledge (skills)
- Broad specialised (field methods of all stations)
- High organisational and methodical effort
- Long interaction with students
- Higher stress level and responsibility

• Conclusion for future courses: design of Group 2

• Our aims for the next courses are:

- To enhance the cooperation between university and school
- Enhance collaboration between in-service teachers, pre-service teachers and students
- Focus on the evaluation of the skill development

### Field trip area



Rabeninsel

### Stations of the field trip

- Tree identification
- Spatial orientation
- Water analysis
- Weather analysis
- Soil analysis
- Analysis of human influence

Germany



Water analysis



Spatial orientation



Tree identification with iPads



Analysis of human influence

### Contact:

Dr. Anne-Kathrin Lindau: anne.lindau@geo.uni-halle.de  
Alexander Finger: alexander.finger@biodidaktik.uni-halle.de  
Prof. Dr. Martin Lindner: martin.lindner@biodidatik.uni.halle.de

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