BIODIVERSITY AND SPECIES IDENTIFICATION

Dear Participant,
The aim of this Nordic-Baltic Research Project is to find out methods and ways to make teaching and learning of biodiversity and species identification both effective and understandable and at the same time also an interesting and attractive part of our life experience. The target group is student teachers from eight Nordic-Baltic countries. The test is in every respect confidential and does not affect your study results. We would very much appreciate if you could write your name and e-mail address in the questionnaire. Of course, you can also participate in the test anonymously, but then you can't participate in our lottery of 50 cinema tickets. Thank you for your time and honest answers!

On behalf of the Nordic-Baltic Research Group: Project leader Irmeli Palmberg, Åbo Akademi University, Vaasa, Finland (irmeli.palmberg@abo.fi) & Local researcher NN (e-mail)

Instructions:

The test consists of two parts: 1) a questionnaire and 2) a PowerPoint-presentation. The Power Point-presentation of totally 18 species is running non-stop all the time while the test goes on (45 minutes).

➢ **Answer the questions in part A (1-9) about your background.**

➢ **Identify species from the PowerPoint-presentation and write down in part B (1-18) the <u>official names of the species</u> in your language or their scientific names (Latin). Note: it is important to have the names at <u>a species' level</u> (but if you don't know the name of a species it's better to give at least a group name).**

➢ **Continue with part C (1-13) about your ways and experiences of identifying species and your opinion about the importance of biodiversity and species identification. Note: some questions require one answer; some require you to tick 1-3 alternatives. Read the questions carefully. Please also try to briefly explain your answers whenever asked for. In the last question (C13) you can sum up your opinion about the importance of species identification. There is also space for free comments at the end of the questionnaire.**

A. Background

[A1. Your name and e-mail-address (optional)]:

_____

_____

A2. Gender: ☐ woman   ☐ man

A3. Age: ☐ under 25   ☐ 25-35   ☐ over 35

A4. The place where you have lived most of your life:

☐ big city (over 100 000 inhabitants)

☐ medium-sized city (50 000−100 000)

☐ small town (under 50 000)

☐ rural area

A5. University/College, Faculty: _____

A6. Study program: _____

A7. Ongoing study year:

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5   ☐ other, what? ____

A8. Have you taken a course including biology in teacher education? ☐ yes   ☐ no

If yes, which year was it?

☐ Year 1, autumn   ☐ Year 1, spring   ☐ Year 2, autumn   ☐ Year 2, spring

☐ other, what? _____

A9. What is your level of interest in nature?

☐ very high   ☐ high   ☐ neither high nor low   ☐ low   ☐ very low

B. The Power Point-presentation of totally 18 species [PP included several photos of each species, and only the common names in the students' own language were asked for, or their scientific names (Latin) as in this key].

Plants:
 1. (Picea abies)

 2. (Betula pendula)

 3. (Viola tricolor)

 4. (Ranunculus acris)

 5. (Trifolium repens)

 6. (Epilobium angustifolium)

 7. (Plantago major)

 8. (Phragmites communis)

 9. (Tussilago farfara)

Animals:
 10. (Parus major)

 11. (Larus ridibundus)

 12. (Bufo bufo)

 13. (Inachis io)

 14. (Formica rufa)

 15. (Vipera berus)

 16. (Vulpes vulpes)

 17. (Perca fluviatilis)

 18. (Esox lucius)

C1. What kind of principles do you use when identifying plant and animal species
a) in <u>photos</u>, and b) in <u>nature</u>?

Plants:

a) In the PP-photos (# 1-9) you see plants. How do you identify them? Tick **the (1−3) most important** things you use when you identify plants **<u>in photos:</u>**

☐ shape ☐ size ☐ colour ☐ seeds ☐ flowers ☐ leaves ☐ habitat

☐ others: _____ (please specify)

b) Think of some plants you know in nature. How do you identify them? Tick **the (1−3) most important** things you use when you identify plants **<u>in nature:</u>**

☐ shape ☐ size ☐ colour ☐ seeds ☐ flowers ☐ leaves ☐ habitat

☐ sound ☐ touch ☐ taste ☐ "movement" ☐ smell

☐ others: _____ (please specify)

Animals:

a) In the PP- photos (# 10-18) you see animals. How do you identify them? Tick **the (1−3) most important** things you use when you identify animals **<u>in photos:</u>**

☐ shape ☐ size ☐ colour ☐ habitat

☐ others: _____ (please specify)

b) Think of some animals you know in nature. How do you identify them? Tick **the (1−3) most important** things you use when you identify animals **<u>in nature:</u>**

☐ shape ☐ size ☐ colour ☐ touch ☐ smell ☐ sound ☐ movement

☐ habitat ☐ others: _____ (please specify)

C2. Are you interested in plants and/or animals? Tick **1** of the alternatives

☐ **plants** ☐ **animals** ☐ **both plants and animals** ☐ **neither plants nor animals**

If you answered **plants** or **both plants and animals,** tick all the plant groups that interest you:

☐ garden plants ☐ wild flowers ☐ trees and bushes ☐ mosses

☐ lichens ☐ indoor flowers ☐ algae ☐ crops

☐ others: _____ (please specify)

If you answered **animals** or **both plants and animals,** tick all the animal groups that interest you:

☐ pets   ☐ domestic animals   ☐ fishes   ☐ birds

☐ amphibians   ☐ mammals   ☐ insects and other invertebrates

☐ reptiles   ☐ others: _____ (please specify)

C3. Why do these plants and/or animals interest you?

_____

_____

_____

C4. What do plants and/or animals mean to you in general?

_____

_____

_____

C5. Where do you get information about plant and/or animal species?

Tick **the 3 most important** sources for plant and/or animal information for you:

☐ **family**   ☐ **school**   ☐ **university**   ☐ **peers**

☐ **media**   ☐ **hobby**

☐ **others:** _____ (please specify)

C5a. If your answer included **school or university,** tick **the most important source** there:

☐ teachers   ☐ learning materials   ☐ field trips and field work

☐ species identification in the classroom

Please **explain** your answer: _____

_____

_____

C5b. If your answer included **media**, tick **the most important** source there:

☐ newspapers   ☐ nature journals   ☐ other journal   ☐ tv

☐ internet   ☐ social media (facebook, twitter etc.)

Please **explain** your answer: _____

C6. How often did you have species identification at school?

☐ very often   ☐ often   ☐ occasionally   ☐ not at all   ☐ can't remember

If you had species identification at school, tick at which level(s) you had it:

☐ primary education   ☐ lower secondary education   ☐ upper secondary education

☐ somewhere else _____ (please specify)

C7. What, in your experience, are <u>the most efficient methods</u> in teaching, studying and learning plant and animal identification? Tick **the (1−3) most efficient methods** for you among the following **18** indoor and outdoor alternatives:

Indoors:

☐ teacher-centred indoor education

☐ group inquiry

☐ traditional group work

☐ cooperative learning (expert and home group work)

☐ project work (teacher and students together)

☐ experiential learning method (learning through experiences)

☐ experimental learning method (learning through experiments)

☐ problem based learning method PBL (learning based on questions)

☐ other indoor methods (please name them) _____

Outdoors:

☐ teacher-centred outdoor education

☐ group inquiry

☐ traditional group work

☐ cooperative learning (expert and home group work)

☐ project work (teacher and students together)

☐ experiential learning method (learning through experiences)

☐ experimental learning method (learning through experiments)

☐ problem based learning method PBL (learning based on questions)

☐ other outdoor methods (please name them): _____

Why? Please explain your view _____

_____

_____

_____

C8. What, in your experience, are <u>the most efficient materials</u> in teaching, studying and learning plant and animal identification? Tick **the (1−3) most efficient teaching materials**:

☐ stuffed animals (birds, mammals, fishes)　　☐ dried plants　　☐ living plants

☐ living animals　　☐ photos and drawings　　☐ cd/DVD　　☐ books

☐ magazines　　☐ Internet

☐ others _____ (please name them)

C9. How important is species identification for citizens <u>today</u>?

Tick **1 alternative** from the scale**:**

☐ very important　　☐ important　　☐ neither nor　　☐ less important　　☐ not important at all

Why? Please explain your view _____

_____

_____

_____

_____

C10. How important is species identification for citizens <u>in the</u> <u>future</u>?

Tick **1 alternative** from the scale**:**

☐ very important　　☐ important　　☐ neither nor　　☐ less important　　☐ not important at all

Why? Please explain your view _____

_____

_____

_____

_____

C11. How important is species identification for sustainable development?

Tick **1 alternative** from the scale**:**

☐ very important ☐ important ☐ neither nor ☐ less important ☐ not important at all

Why? Please explain your view _____

_____

_____

C12. How important is biodiversity for sustainable development?

Tick **1 alternative** from the scale**:**

☐ very important ☐ important ☐ neither nor ☐ less important ☐ not important at all

Why? Please explain your view _____

_____

_____

C13. Describe your opinion about the relationship between **species identification, biodiversity** and **sustainable development** (you can also use a mind-map etc. and continue on the next page)

Additional comments: _____

_____

_____

THANK YOU!