



## Plants and Play Promoting Universal Skills

# National Adaption Plan

Key findings of Desk & Field Research  
including User Cases

*(United Kingdom)*

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## Aim of the National Adaption Plan

**Pappus will explore and bring together an innovative approach through plants and play that develops skills and enthusiasm for the natural world, horticulture and botany in both school practice and informal youth learning settings. This will be reached by the help of two main project results: a toolkit and an online training course. The basis for the development of these products was formed by a National Adaptation Plan.**

### Research methodology

The University of Gloucestershire is lead partner of the Pappus project and is supported by partner institutions from AT, CZ, HU, PL and SK. Here we present our National Adaption Plan, which has been informed by diverse sources of information collated by both desk and field-based approaches:

- Initial desk research established an overview and understanding of the governmental framework, target groups, challenges and barriers to engagement; typical beneficiaries and effective ways to approach them.
- The desk-based research drove relevant field research carried out in each partner country. A minimum of 10 interviews with a semi-structured questionnaire on a one to one basis or through focus groups discussed the issues and possible implementation of the two products.
- Finally, we developed the National Adaption Plan to specify our strategy to reach the aims of the project and to discuss them with relevant stakeholders in various Multiplier Events.



## Summary Report United Kingdom

### Key findings of Desk Research

The environmental sector in England, and the outdoor learning sector are closely aligned and have a long history of working together to drive environmental education in schools. Consequently, there are many organisations and initiatives providing information to schools, and we must ensure Pappus doesn't replicate these, but instead adds value and brings new and unique approaches for schools.

**Institutional framework in England:** The Department for Education (DFE) is a national government department with responsibility for formal education in English schools. It devises the National Curriculum (NC) which is followed by state schools between Year One (rising 6) and Year 11 (rising 16); it also publishes the Early Years Foundation Stage (EYFS) framework, which all Ofsted registered pre-school providers (children aged between birth and rising 5) are required to follow. Ofsted is the government body that inspects state funded English schools and will introduce a new inspection framework in September 2020, and this presents opportunities for Pappus, as schools will be reviewing their work in the context of the new framework.

**The target audience in England,** for the materials generated by PAPPUS is made up of the adults who teach or facilitate formal or informal learning, and out-of-school play or recreational activities, and we view these as our main stakeholders: a) Teachers and teaching assistants (TAs) delivering the English national curriculum, in mainstream schools; b) Support staff in schools with responsibility for emotional wellbeing, special educational needs and disabilities (SEND) and children in receipt of Pupil Premium (PP); c) Adults working with children in Alternative Provision (AP), Pupil Referral Units (PRUs) and Special Schools.

**The ultimate beneficiaries** of this project, in England, are children and young people engaged in formal and informal learning and accessing play programmes. In particular, our focus is on children and young people aged between 9 and 13, as this can be a period during which children become disengaged from mainstream formal education: a) Children aged 9-11 are in the Primary phase, in Years 5 and 6; b) Children aged 11-13 are in the Secondary phase, in Years 7 and 8. Learning outside in England becomes less of a priority as children move through the age groups.

Given that our target group and beneficiaries comprise a broad spectrum, **the hooks will be different for each group**, and we will research and focus our material more specifically as Pappus progresses. In our desk research we offered a brief snapshot into some of the programmes and approaches school and out-of-school providers are already familiar with, e.g. "Wildlife Trust: 30 Days Wild Challenge".

Finally, we collected first **key messages**, which will become clearer and more purposeful as work in our focus groups and conversations with participants continues: "Pappus is primarily an outdoor programme and lends itself to the acknowledged need to get children more active and connected to the natural world"; "Pappus will offer you an opportunity to engage with environmental and conservation issues in a practical and enjoyable way".

**A multitude of studies and evidence demonstrate the positive benefits of the natural world on children's mental health and wellbeing.** However, teachers tell us that it is often too difficult to find the time in a busy school day to take the children outside more regularly, unless this is related to a specific learning outcome. So, we have focussed on evidence linked to the academic attainment of children, to support our aim to make a compelling case that children should learn outside much more regularly, and not just as part of special 'one off' projects or specific subjects.

**Please refer to the report 'Pappus Desk Research UK' for more information.**



## Key findings of Field Research

Field research in England is based on the desk research we have conducted earlier for the Pappus project. We conducted **a total of 17 interviews with various institutions**, like the Royal Horticultural Society – RHS, SEND outdoor learning, Playwork Foundation and Primary and Secondary Schools. We summarize here the most important findings from the interviews:

**Hooks and key messages**, that would attract interviewees themselves: “The hooks would need to address the concerns of teachers who may feel that there is too much curriculum pressure to spend time outside regularly for core subjects. Specifically, apprehension as to how to manage this in the school day and the impact on resources needed, medium term planning, workload, tracking and recording evidence of learning outcomes.” “Practical curriculum linked tasks that also offers physical development”; “Mindfulness is another important hook for teachers.”

**Hooks and key messages to attract children and young persons:** “Young people’s interest in global issues of climate change and conservation are good hooks”; “For young people, they need freedom, chance to explore, they are keen on environmental issues- saving the planet and understanding it. Other hooks include food- cooking and growing”; “Challenges to children over the weekend to find something that the Head did not know what it was – special prize given. Good motivator!”; “The abstract theories students are being taught can give them a better learning experience if we can embellish it with examples of real practical application, stories, fact, studies from the plant world.”

**Good practice identified by interviewees:** “There are many examples of good practice with ‘project’ based activities, ‘out of school learning’, sensory gardens and food growing, but fewer ideas about ‘everyday’ core curriculum tasks for outside.”

“Pappus would need to show case areas of the curriculum where outdoor learning is successful, and these need to be highlighted, shown as very practical examples, with easy preparation and logistics, straightforward evidencing and assessment. Show a progression of activities that are not daunting for a teacher who lacks confidence.”

### Inputs for the Pappus Toolkit:

- Few teachers or TAs have a specialisation in botany or plant sciences; resources need to be easy to understand, deliver and incorporate into lessons.
- Digital and online resources will be used more than books and paper handouts, but use of tech for this project by the children should be minimal.
- For schools, a close connection to the curriculum subjects is most desirable, but health and wellbeing are also of increasing importance.

### The following suggestions and wishes were put forward for the Pappus Training:

- Targeting teaching assistants rather than teachers might be preferable.
- Obstacles to learning outdoors must be addressed as part of Pappus, e.g. teachers’ ‘fears’ about taking children outdoors for learning, need to be tackled head on, and solutions offered.
- If Pappus requires significant additional time to deliver, it is unlikely to be sustainable.
- Some interviewees believed extra-curricular projects would be most valuable.
- Releasing staff for training is expensive (needing supply cover) and therefore the total cost needs to be considered, not just a ‘fee’ for the training event / course itself.

**Please refer to the report ‘Pappus Field Research UK’ for more information.**



## Sample User Cases

In the Pappus project partners from Austria, Czech Republic, Hungary, Poland, Slovakia and United Kingdom (coordinating institution), conducted **more than 60 interviews in the course of the field research**. These were partly organised in person, by telephone or other communication tools. In some countries focus groups with several participants were organized.

We have already **summarized the key findings per country above** to give you a quick overview. If you would like to read further into the topic, please refer to the complete reports of the individual partners. To make the goals of the Pappus project more tangible and to share with you how the interviewees reacted to them, **we present individual user cases** on the following pages. We would like to emphasize that the selection of the user cases was made subjectively, and the respective examples are not representative for a whole country.

Despite all the differences that may exist in the participating countries, the studies have shown that **teachers in all countries are very challenged by the need to adhere to the respective curricula** - especially at secondary level - and it is therefore difficult to devote themselves to new projects. In terms of content, almost all teachers have agreed that a combination of nature and learning is desirable, that students (as well as teachers) should spend more time outside, and that the study of plants in general is very valuable for experiencing and imparting knowledge in many subjects. Nevertheless, it is to be accepted that teachers in public schools have much less freedom than in some alternative school forms, e.g. Waldorf schools, where learning in and with nature is already a fixed part of the curriculum. A number of examples were given which show that even in public schools there is a rethinking process and a gradual attempt is being made to allow more freedom for teachers and students.

In any case, **we recognized the importance of structuring the project results very well**, preparing all learning materials transparently and designing the training units efficiently to make it as easy as possible for the teachers to participate in the project.

When **selecting the user cases**, we have deliberately chosen those interviewees who are not directly involved in the public-school system, thus having more freedom and can thereby bring in other points of view. The examples should serve as **inspiration for others and motivate them** to be part of the Pappus community. We look forward to the successful implementation in many schools in the participating countries!



## 1. User Case “Vegetable Grower” (AT)

### Sociodemographic data

- Gender: male
- Age group: 19 - 35 years old
- Role: Vegetable cultivation
- Other criteria: New ways of communicating nature

### Description of situation

Fabian (pseudonym) completed his studies at the University of Natural Resources and Applied Life Sciences and decided against a classical career in this area. He talks about the fact that road construction and house building seal so much soil that the natural balance is thrown off course. This has concrete effects on the heat radiation, the quality of the soil as well as on the water quality. Another issue that he is very concerned about is the spraying agents used in agriculture, which enter our food chains directly and cause great damage to the soil. Fabian deliberately chooses a different path: he currently cultivates a large field in his hometown and specialises in vegetable cultivation. His aim is to start small, which means that for the time being he will only be working a field that he can cultivate by hand. Fabian pays great attention to a natural and local cycle, which starts with the selected seeds and ends with the supply of farm shops in the vicinity.

### Objective: This is important to me

Fabian tells us that the knowledge of nature is an important concern for him: "Pay attention to your surroundings, because everything you know you treat with more appreciation". Recently he invited the children and teachers at the local school to a workshop on the topic "What do I eat?" to share his experiences with them. For Fabian, it is important not to lecture, but to let the children make their own experiences. He mentions a quote that could come from Gerhard Hüther: "You remember only about 5% of the things you hear, the rest of the learning takes place through experience." Fabian criticises that in our school system too much emphasis is placed on formal learning and that active learning is not given enough attention. Because real learning can only take place through the combination of ratio and emotion. When he does workshops for children, he wants them to experience nature "up close and personal": kids can cut up a carrot and pick to pieces a sprout in order to experience haptically how the vegetables feel. Kids experience what the plants need to grow and how they taste.

### Methods & Instruments to achieve these goals

- Appreciation for each other and for nature (this is closely linked)
- Making nature tangible and experienceable for children
- To make feelings of happiness tangible through experiences of nature, e.g. by working in the field or garden, actively experiencing and appreciating nature with all its wonders
- Not teaching but living the connection with nature with all its consequences and letting others share in it
- The best method is to be in nature, observe it and learn from it

### Hooks:

- "Are my carrots ripe for the picking? Let's have a look"
- "What's in a sprout, anyway?"



## 2. User Case “Natural Philosopher” (CZ)

### Sociodemographic data

- Gender: male
- Age group: 50+ years old
- Role: Director of an NGO Environmental organization
- Other criteria: Natural philosopher, enthusiastic for spreading awareness of nature

### Description of situation

As an urban child, he spent his entire vacation with his grandmother in the countryside and did not want to return to the city. And here, according to him, it all started. He studied ecology and has a doctorate in sociology and environmental political science. He worked as an ecologist in an agrochemical company, then as an official in the environmental department, but that did not fulfil him. He started with environmental education, but did not want to go to schools, to their classes. And so, he established his own garden in the middle of the city. In 2007, thanks to his enthusiasm, he managed to build a unique Ecological Activities Centre. This centre runs several courses for children and adults. Experience is always the first priority.

### Objective: This is important to me

He is not primarily concerned with nature, but mainly with man and his experience in connection with nature. "Nothing against the wilderness, but you would rather stop at a chapel or obelisk beautifully integrated into nature. Baroque nature humanizes man. It is a concept of natural philosophy and psychology in the context of nature through experience."

### Methods & Instruments to achieve these goals

- Children do not lack biological education but rarely go out. It is necessary to bring nature closer to children so that they perceive that it is important for them, and this only goes through experience.
- It must be physical - staying outside (cold, warm, rain). That is the most important thing.
- It doesn't even matter what you tell them, but that children are in nature without a PC.
- It is necessary to get children to talk to each other, to think and to make a mistake. It is a process of adventure. If something is wrong then lead the child to understand how good it is, but let it figure it out on its own.

### Hooks:

- Finding adventure, change and freedom in nature motivates children.
- There is no need to say what to do, just let them find a stick and run with it.
- Invite children to nature and leave them as much freedom as possible. They will learn.
- The role of the teacher is important: Kids have to feel, that he/she has fun too.
- Parents' role is of course important: They should be in nature with their kids whenever possible.



### 3. User Case “The multifaceted Agronomist” (HU)

#### Sociodemographic data

- Gender: female
- Age group: 19 - 35 years old
- Role: Multifaceted Agronomist
- Other criteria: and owner of their family ranch, teaching horticulture in a school

#### Description of situation

Rosa (pseudonym) and her husband have their own family farm in South Hungary that they run according to permaculture. This has three main principles: protect men, protect nature, protect human relations. She has a different history than most of our interviewee. She told that she had grown up in an environment where she hardly had the opportunity to play and she still feels the drawbacks of this childhood. She raises her children in freedom and in close contact with nature.

Rosa gives horticulture lessons in a Waldorf school in their vicinity. She claims that 1,5 hours for such a lesson is too short (this was mentioned by the other horticulture teacher as well). After all, she states, that it is easy to find a lot of interesting activities.

#### Objective: This is important to me

- **Observation** – this is very important and can be done almost anywhere. What kind of flowers are blossoming, how they look like, what kind of differences we can find on the level of species? Structures of flowers, etc. These kinds of observations are usually good activities for the older students as well.
- **Here and now** – to be where we are. Getting out of the virtual world and arriving at the present moment.
- **“The enthusiasm of the teacher** is an essential thing. This is the most important thing, what is actually transferred to the students and leaves a lasting impression.” – she claims.

#### Methods & Instruments to achieve these goals

- Children enjoy walking. We can walk down the same path in each season and observe how the nature changes around us.
- We can connect with folkways which are related to seasonal changes.
- Making nature tangible and experienceable for children.
- The best method is to be in nature, observe it and learn from it

#### Hooks:

Rosa has already set out **the idea of a board game about conscious agriculture**, and she is seeking for partners for the realization. We were talking about a possible collaboration in the frame of the PaPPUS project.



## 4. User Case “The Author” (PL)

### Sociodemographic data

- Gender: male
- Age group: 50+ years old
- Role: Author
- Other criteria: Let children discover themselves through nature

### Description of situation

Interdisciplinarity and to some extent improvisation - reacting to what happens in the environment and children's interactions with their environment. As far as the former is concerned, regardless of the discipline and the initial topic, it is worth noting the links between different fields of science, art, perception - with a particular emphasis on nature. I would also draw attention to the children's awareness of how the circumstances in which the classes take place affect them. A side effect, but an important one, is also a positive impact on health - for example, due to breathing (assuming that there is no elevated level of smog in the area – but this is a separate problem).

### Objective: This is important to me

The most important educational goals for me are strengthening the sense of subjectivity and self-esteem, development of imagination, self-awareness and independent thinking, attention, healthy emotional development, supporting empathy. Deep contact with nature is very conducive to achieving such goals.

### Methods & Instruments to achieve these goals

- For example, by arranging situations in which the observation of nature, various kinds of sensual experiences move the imagination, arouse emotions, willingness to act and create.
- It is important to leave a large margin of freedom and at the same time not leave in a sense of helplessness - to show the different possibilities of action that are actually attractive for contemporary children, taking into account their experiences and needs.
- It is important to be aware of all the parties involved: that the participants have a sense of subjectivity and fun, I - that I - have a sense of the meaning of what we do and that nature really is the essence of this relationship, not just a background or a prop.

### Hooks:

“I participated in a project aimed at sensitizing children to nature by discovering the closest surroundings: lawns, parks, city trees, insects, etc. The first stage was a playful training of attention, changing the priorities of perception, paying attention to what is under your feet and right in front of your nose. Recording it in any way you want - mainly through drawings and descriptions, and then developing it creatively - creating stories, further sequences. Whatever motive or essence they encounter, they want to tell me what their story and message is. The children's ideas were very important, there were no detailed instructions for action because the project had a rather open structure and it was not aimed at achieving specific effects.”



## 5. User Case “The innovative Tour Guide” (SK)

### Sociodemographic data

- Gender: female
- Age group: 50+ years old
- Role: The innovative Tour Guide
- Other criteria: pedagogue and afternoon supervisor in public school

### Description of situation

Let us call our innovative afternoon supervisor “Aneta” (pseudonym). She is an afternoon supervisor in elementary school. ‘It all started with organization excursions in the nature’ – she said. ‘I have organized different kind of tours, for example ‘deciduous tour’, or ‘bud hanging’ tour with the biology teacher at our school.’ They organized these tours in the afternoon hours or on the weekends. As it took part in the children’s free time, these events were always optional. Their goal was to introduce children the beauties of the city and the environment. After that came the idea to create gardens in the school yard, because they have a big and nice school yard.

The first garden Aneta created together with teachers and kids got the fantasy name ‘Island of peace’. Now, they are creating another garden, the so-called “Garden of health”. She told us that the gardens were implemented by the money, they won from various projects and from donations of parents and other people. They got material for free from local entrepreneurs and the parents were also involved in the implementation process.

### Objective: This is important to me

Aneta told us, that each class has a rock garden too, and they have to take care about the planted plants. They also take advantage of the Earth Day to beautify the garden to do the necessary work. In this day there is no teaching for the students, so they can spend the whole day outside. She emphasized that the teacher’s commitment is determinative. If the children see that the teacher is enthusiastic and committed to the topic, they will also be more willing to get involved in the work.

### Methods & Instruments to achieve these goals

- We had no money, but we were creative and involved people outside the school.
- They created their first gardens with old well rings (which was a donation).
- Teachers and Students together decorated the well rings with mosaic tiles.
- Later they designed furniture made of palettes, where students can spend their free time or they can spend the lesson too.
- Students always have a chance to decide whether they want to collaborate with the others or just observe from outside the others gardening. The usual experience is that sooner or later all the students join the work.

Finally, Aneta told us about the future plans: ‘One of the parents is a professional gardener and she is very creative, so she helps me and supports my work. We are planning to create a study trail too. We will ask each class to choose one plant they wanted learn more about and according to their decisions we will realize the study trail.’



## 6. User Case “Naturalist with visions” (UK)

### Sociodemographic data

- Gender: male
- Age group: 50+ years old
- Role: Retired Head of a Middle School
- Other criteria: Naturalist with plant specialism, who claims thinking out of the box

### Description of situation

Our interview partner, we call him “John” (pseudonym) is a naturalist with plant specialism and responsibilities for vascular plant records in his region. He is a retired middle school principal with many years of experience in the education sector. John sees the Pappus activity as vital for helping children think out of the box and states, that the current education system is beginning to mirror Chinese formulaic learning (strict sequential learning). He misses the traditional approach in building experiences that can inspire future interests and learning in more of a positive way.

Here we give an example that was brought in by another interviewee, but which fits very well with this topic: “Most children will say that plants are important from the viewpoint of Trees, CO<sub>2</sub> – well established in school science and embedded in children’s heads. But if you ask them how you maintain and sustain it or what’s the relationship between the vegetables you get in the supermarket, they don’t make those connections. They have no clue whatsoever. You might have the food you want now but if you don’t take care of your natural environment then it might not be as easy to come by or be there for you in the future. Thus, for those schools in an urban environment it would be helpful for them to appreciate that the reason why their urban environment works well is because the wider rural environment is healthy enough to provide them with what they need. If they understand that inter-connection then they will appreciate it and protect it fully.” (Operations Head at a Secondary School).

### Objective: This is important to me

John further emphasizes that the work with plants can intensify both the experience inside and outside the classroom and can be seen as outstanding by Ofsted. He recommends that Pappus needs to be using the right language, phrases and description of outcomes that get attention of teachers. John further states that we should keep in mind that the implementation creates additional school workload that compensates for removing children from class to go on a trip. He felt Pappus may work if extra-curricular.

### Methods & Instruments to achieve these goals

- Daily nature table within each classroom and show and tell during assembly. Challenges to children over the weekend to find something that the Head did not know what it was – then a special prize is given to the student, which is a good motivator.
- Making nature tangible and experienceable for children.

### Hooks:

- “Think outside the box”
- “Invent challenges to motivate students”