



Pax Lux
Gemeinnütziger Verein für Forschung und Bildung
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Auftraggeber:

Pax Lux

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Vereinsstandort: Rauscher Str. 35, D-82211 Herrsching

Projektbeteiligte

Projektleitung	Laura Behrens, President and Scientific Director of Pax Lux
Stellvertreter	Thomas Bahn, Vice President and Deputy Scientific Director Pax Lux
weitere Teilnehmer:	Cooperation partners of Pax Lux
Projektort	Standort von Pax Lux, Rauscher Str. 35 D 82211 Herrsching am Ammersee und die Gemarkung Herrsching am Ammersee, Flurstück 1491/1 oder individuell je nach Standort der Projekte
Projektziel	<ol style="list-style-type: none">1. How do the concepts of knowledge and self-efficacy develop in adolescents aged 12 to 18 against the background of the "Erdkinderplan" developed by Dr. Maria Montessori and how do these become effective in everyday school life and beyond?2. What influence does the work with adolescents within the framework of the Erdkinderplan have on the nature surrounding them and vice versa?3. In addition, the school development process of Montessori schools without a Montessori concept for 12 to 18 year olds towards the Erdkinderplan is accompanied and examined.
Projektmittel	Membership fees, admission fees, voluntary contributions, sponsorship fees, club fees, proceeds from events and exploitation, research participations, public funding and research grants, proceeds from projects, appreciation contributions, funding for education and research, proceeds from further education and training events, income from renting and leasing, income from cooperations
Datum	
Projektdauer	25 Years



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Preamble:

Our vision is a peaceful society that is committed to inviolable and inalienable human rights as the basis of every human community, peace and justice in the world (Basic Law, Article 1). It demands more personal responsibility from us, but also competence to act and civic engagement. Employers are looking for committed people who are able to work in a team and who already have the skills to act. And it is not only the labour market that demands this; for a harmonious society and the protection of nature, we need innovative, confident, independent people who are aware of their responsibility for a successful future. It needs pattern breakers who can think interdisciplinary and globally and act locally; people who trust their vision and imagination, who demonstrate courage, decision-making ability and empathy in their actions.

Project description:

The Pax Lux project "Earth Child Plan" according to Dr. Maria Montessori aims at a qualified, individually adapted and research-based support, accompaniment and research of personality development processes at Montessori schools in Germany and abroad.

The research of the autonomous educational and self-efficacy concepts of adolescents within the framework of the authentic Earth Child Plan according to Dr. Maria Montessori is at the centre of the project.

The Pax Lux association has also set itself the task of investigating the influence and the physical, psychological, academic and manual effects of living and working in and with nature on young people. In this context, we cooperate with the Permaculture School Association.

To this end, Pax Lux is in contact with various national and international educational institutions such as AMI - Association Montessori International, as well as EMTA (European Montessori Association), NAMTA (North American Montessori Association) and the Center for Work and Study in Sweden, in order to work on school development with a focus on the characteristics and developmental needs of adolescents aged 12 to 18, as well as professionalisation of school organisation, implementation of the Earth Child Plan and quality management.

The findings are to support all Montessori schools in their development, but they are also to be transferred to and made available for further school development processes.



The project comprises three levels:

Module A: Concept Development, Process Support at Montessori Schools

- Concept development with regard to the individual circumstances and resources such as location, number of pupils, staff qualifications, etc.
- Process support for the concrete support of the participating schools (individual school support of the schools in their school development both on the individual school level as well as on the association level by the scientific management)
- Support and continuous further qualification of the academic leadership, through external speakers and national and international conferences, symposia and courses.
- Networking and exchange

Module B: Accompanying scientific research by PAX LUX

Questions in the area of

- What conditions, prerequisites and resources are necessary to implement the Earth Child Plan?
- In what way can/should the school management, the staff, the parents and the young people be involved in the process and when not (when and for what purpose is participation useful and/or necessary)?
- Analysis of the status quo, the given conditions, prerequisites and resources.
- To what extent are educators, experts and adults able to create a framework in which young people feel protected, are empowered to understand society and recognise their own value, which is fertile ground for powerful, sustainable, complete education and development?
- How to create the conditions for young people to have experiences in three elementary areas: Studies, work and community life.
- To be able to explore the interrelationship between people and nature, as well as one's own role as an individual in a social group - two key processes of youth development.
- To have the necessary activities, participation in life and democratic processes and the exchange of goods, so that first-hand experience, as well as practical integration of knowledge and social contribution can take place.



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- Experience and understand, in the context of the Erdkinderplan that human actions have a direct impact on creation,
- To find a prepared environment according to the criteria and specifications of the "Plan of Work and Study". Which components are urgently needed? How must the prepared environment be prepared by the adults? How much work must be available? etc.



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Module C: Accompanying the school development processes with teacher training

- Focus on adequate training
- Internships
- Study-practice projects
- Further education concepts of the respective institution
- With regard to school quality development and quality management within the framework of international guidelines:
 - continuous evaluation
 - Networking with international Erdkinder projects



General and procedures of the scientific project:

A) General:

- All relevant findings, data and experiences are documented as best as possible in order to make them comprehensible and verifiable for all others as well.
- According to general knowledge, a research project or its results are scientifically relevant if they contribute to the advancement of knowledge or the progress of a scientific field.
- Furthermore, it is important that the results meet scientific quality requirements and standardised frameworks that are comprehensible and transparent. The broader the basis on which the findings of a scientific advance on a particular subject are scrutinised, the more relevant their significance. What is involved here is knowledge that is acceptable to the interested parties but brings new or as yet unknown perspectives or insights.
- What can ultimately contribute decisively to the scientific concern is based on the interest of the scientific knowledge and the form of the scientifically relevant question.

Implementation:

1. Informing the participating schools about the PAX LUX research project.

2. Declaration of consent to participate in the project

3. Collection of data and information:

1. Step:

Expert interviews with selected, proven experts in the theory and practice of the work and study plan according to Dr. Maria Montessori

2. Step:

Personal interviews with a representative sample of 50 adolescents and educators each.

3. Step:

Approx. 5 problem-centred in-depth interviews each with school administrators, pedagogues and pupils on the further development of the EKP and on autonomous educational and self-efficacy concepts within the EKP.

4. Step:

Questionnaires for pupils, educators and school management

4. In questionnaires adapted to each project, the research purpose is presented, which is carried out by the PAX LUX team as an analysis. The results of the research activities are presented as graphs, documented via software or via so-called feedback forms. The research results of these detailed projects are evaluated accordingly and passed on via PAX LUX to all interested parties as well as to the members of PAX LUX.



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Important notes

Pax Lux owns the right to exploit this project or the associated expert opinion. Irrespective of this, both the project and the expert opinion constitute intellectual property of Pax Lux. Pax Lux is entitled to use this project or expert opinion for other purposes if this does not violate data protection and the duty of confidentiality. Apart from this, this project or expert opinion, with the exception of the "authorised abridged version", may not be passed on in modified or abridged form without the consent of the presidium of Pax Lux. The assignment for this project refers to measurable values and their interpretation according to the guidelines of Pax Lux. Video recordings may only be made with the permission of Pax Lux.

Appendix 1: Glossary

Appendix 2: Graphic - Plan of Work and Study

Appendix 3: Graphic - The Stages of Child Development according to Dr. Maria Montessori



Appendix1:

Glossary

Term	Definition								
Freedom and discipline	<p>For Maria Montessori, discipline is one side of a coin whose opposite side is freedom. For her, the two absolutely belong together. Thus order and discipline lead to freedom.</p> <p>In doing, in the appropriately prepared environment, in concentration, the child develops an inner discipline that emanates from itself and enables it to move (mentally) freely.</p> <p>Maria Montessori understands disciplined children to be independent, peacefully cooperating, persevering children. These children are not exposed to the interplay of praise and reprimand. She gives the children a framework in which they learn to distinguish between good and bad. This, together with the possibility of meeting their own needs, creates an inner peace in the children which manifests itself in a natural discipline.</p> <p>According to Maria Montessori, the child can only develop in freedom. However, she means freedom with clear rules. Discipline, as a partner of freedom, provides the framework for free action. In self-discipline, the child recognises the possibility of following its inner blueprint, so that it also learns how to use freedom. Maria Montessori provides the children with materials and a prepared environment, including the teachers, which support the children's development according to their inner needs. They offer the child space to grow.</p>								
Planes of development	<table border="0"> <tr> <td style="vertical-align: top;">0 bis 6 Jahre Infancy</td> <td style="vertical-align: top;">The absorbing mind, unconscious processes and the simultaneous perception and storage of all surrounding stimuli with all senses is predominant. Active acting complements the constant learning from the age of 3. Physical development takes up a lot of space.</td> </tr> <tr> <td style="vertical-align: top;">6 bis 12 Jahre Childhood</td> <td style="vertical-align: top;">The Big Things, the Big Picture, where do we come from, where are we going, how did people live in the past, etc., are characteristic questions in this rather quiet and stable period.</td> </tr> <tr> <td style="vertical-align: top;">12 bis 18 Jahre Adolescence</td> <td style="vertical-align: top;">Adolescents enter a very sensitive and unstable phase of development. They need protection, they want to understand the role of human beings in society, they achieve social sensitivity and need a constant strengthening of their self-esteem. In parallel, they experience a dramatic physical change in which all existing structures are completely rebuilt and rearranged. (Metamorphosis)</td> </tr> <tr> <td style="vertical-align: top;">18 bis 14 Jahre Maturity</td> <td style="vertical-align: top;">The preparation of the organism is finished and life as an adult begins. In the intellectual study of abstract content, the power of the young adult unfolds.</td> </tr> </table>	0 bis 6 Jahre Infancy	The absorbing mind, unconscious processes and the simultaneous perception and storage of all surrounding stimuli with all senses is predominant. Active acting complements the constant learning from the age of 3. Physical development takes up a lot of space.	6 bis 12 Jahre Childhood	The Big Things, the Big Picture, where do we come from, where are we going, how did people live in the past, etc., are characteristic questions in this rather quiet and stable period.	12 bis 18 Jahre Adolescence	Adolescents enter a very sensitive and unstable phase of development. They need protection, they want to understand the role of human beings in society, they achieve social sensitivity and need a constant strengthening of their self-esteem. In parallel, they experience a dramatic physical change in which all existing structures are completely rebuilt and rearranged. (Metamorphosis)	18 bis 14 Jahre Maturity	The preparation of the organism is finished and life as an adult begins. In the intellectual study of abstract content, the power of the young adult unfolds.
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Work	<p>Maria Montessori recognised that work is an inner need of human beings. Children want to be active. Through these actions of a physical and mental nature, they build themselves up until they are complete. They want to achieve this without help, as they strive for independence. Children can carry out this work with concentration and perseverance until they have attained a feeling of inner satisfaction.</p>								
Valorisation	<p>Valorisation is the child's inner awareness of his or her worth and belonging to the social group. Valorisation of the personality is the goal of Maria Montessori's approach to education, especially for adolescents.</p> <p>An adolescent needs to feel capable and therefore needs adult work and adult</p>								



tasks in a safe environment so that he can build a sense of self-worth. To be valorised, the third plane child must do meaningful work. The pupil should be encouraged to work independently and not be given unnecessary help or treated carelessly.

Prepared Environment

According to Maria Montessori, the prepared environment is the response to the phases in the development of the active child. All spaces surrounding the child (school, classrooms, corridors, broom closet, shelves, furniture, outdoor areas, etc.) are adapted to the needs of the children.

The Prepared Environment should meet the following requirements:

1. it supports the "organisation of work" and promotes the freedom of the child.
2. freedom of choice of work
3. didactic arrangement according to development and sensitive periods (only 1st plane)
4. reduction to the essentials of the material in form, colour, weight and quantity
5. prompting character ("take me and try me out")
6. accompanying the urge to explore
7. free space for movement and work as an indispensable factor for the development of consciousness
8. cosmos is represented and the "keys" to the world are at hand. (The world is in the classroom).
9. clear and simple aesthetics of the material
10. cleanliness
11. completeness
12. trained support staff for "going out" (2nd plane)
13. flexibility to go with the children's development

Pedagogy of place

"Pedagogy of place connects educational processes with life outside the classroom through an interdisciplinary and unifying lens created by the immediate environment. The pedagogy of place is the antithesis of abstraction, it is the natural world that embodies integrating learning principles such as those of direct observation, discovery-exploratory learning, experimentation and craft. The local environment is the "laboratory" where the directly available materials consist of the diversity of the habitat and the messages experienced through contact with a community. The focus is on human history, social and political science, geology, biology, etc., creating a complex mosaic picture that broadens awareness of the potential applications of each discipline and deepens perception of temporal dimensions.

3-Period Lesson

3-Period Lesson has no error option. It is a principle that runs through all planes of development; always adapted to the developmental needs and characteristics of the corresponding plane.

1st plane of development

- 1st time: Getting to know, association of sensory perception and name: "This is yellow."
- 2nd time: recognition of the name and the corresponding object: "Which one is yellow?"
- 3rd time: Active mastery, remembering: "What is this?", "Do YOU know what this is called?", "Do YOU know what this is?"

2nd plane of development

1. arouse interest, tell stories, stimulate thinking, pose problems, stimulate, use effortfulness → big picture (great lessons), grasp imagination (not fantasy): show something bigger than the present and not in the present.
2. (deep) exploration, use of imagination - MM. "Imagination vision is another way than mere possession of an object", Going Out.



3. Mastery/Application - making the student aware of what they have learned (directly or indirectly through the teacher or group). There is no standardised process, it is an individual process (no quiz, no exam).

Metaphor:

1. teacher gives a gift (presentation, gift = gift)
2. pupil works with the gift
3. pupil returns the gift → synthesis increases, drives the pupil to the next gift.

3rd stage of development

1. introduction, walking through this space (forest), presentation of skills, finding out special interest for ..., introduction to basic facts of necessary subjects.
2. work, exploration, investigation, activity, sharing practical life.
3. coming back with a product (I did it), demonstration of understanding → synthesis of (deep) knowledge.

All this creates a learning, a learning of all subjects through social and economic success!

Periphery and centre

Periphery = level of action and appearance of the child.

The periphery is the connection between the outside world, the child's environment and his psyche.

Through a permeable membrane of the centre, impressions and offers penetrate interior, just as what comes from the centre becomes visible on the outside. Mimic impressions of the child are revealed.

The centre is the untouchable secret of the child's psyche, his inner self, which we know indirectly through the periphery. At the same time, we do not know what and how goes on at the child's centre. Part of it then shows itself again through actions and the periphery.

The child's inner freedom, the right to develop mentally on his or her own, is his or her personal dignity. It is inviolable and may not be manipulated.

It is indeed up to every human being to accept or reject attempts at manipulation, because we are thinking, reflecting beings (free spirit/free will). On the other hand, we manipulate daily through our behaviour and the prepared environment, which we should be morally aware of.

Humane tendencies

Human tendencies are forces that are inherent in all human beings. Human tendencies enable the further development of humanity.

The child has the ability to adapt to its environment and to shape it according to its own blueprint.

Maria Montessori says: "The child is the master builder of himself."

She uses less the term "human tendencies" but speaks of "life force becoming visible". The task of the educator is not to hinder this life force. They need the knowledge of tendencies to be able to observe children and adapt the prepared environment.

Mario Montessori summarised basic ideas about tendencies in his book "Basic Structures of Human Behaviour" as follows:



Tendencies, abilities, strategies of the human being are:

1. ordering and orienting (spatially, temporally, thematically -> "mathematical mind").
2. researching (wanting to look behind things)
3. communicating (corresponds to human nature from birth, language, facial expressions, gestures, etc.)
4. abstracting (mathematical mind = classifying, abstracting)
5. repeating (doing the same thing in variations, doing the same thing again to improve, perfect, explore new things)
6. to perfect oneself, it does not need criticism from outside
7. imaginative power (solving problems, gives the human being the possibility to move in space and time)
8. activity, movement, work (belongs to the human being)
9. manipulation, the hand as a tool for intelligence
10. adaptability (time, climate, society, family...)
11. transcendence / spirituality (religion, philosophy, morality)

Side-by-Side-Work

The young person is in the phase of almost being an adult. Therefore, it is necessary to give him real and meaningful work that is normally done by adults. That is why there is a need for juxtaposition. The adult does the same activities as the young person. This requires modelling, guidance, correction by companions. There should be a closer adult-youth relationship - our sweat gives us credibility; it also makes the work a cool thing to do.

In this, we work from the periphery, not the centre. We only support at the periphery so that the student can work at the centre. (Work is still germinating, the seeds planted in the 2nd ES are starting to come up here).

A question that can help us as facilitators:

- How can we enable the young person to connect to a problem themselves?

Self-Expression

Self-expression is the first and highlighted theme in Montessori's three-part curriculum.

It is not always something that young adolescents can articulate; very often creative and physical actions are simply a way of self-expression.

Creativity, however, is the adolescent's mode. It affirms his existence and strengthens the self and its adaptation to the diversity of people and contexts. The inner experience/life desperately wants to show itself.

The young person recognises himself and others more deeply and clearly and intensely than ever before; falling in love, loving and any expression of feelings we see as manifestation in art (always with historical reference). It is about celebrating in kindness other people for their beauty and contribution to society.



Appendix 2:



Appendix 3:

