

Early Language Development in Nature

Generic model





Early Language Development in Nature

Generic model



Editing:

Martin Vollmar, bsj Marburg, Sue Waite, Jönköping University (Sweden)

Technical editing: Barbara Kejžar

Publisher:

CENTER ŠOLSKIH IN OBŠOLSKIH DEJAVNOSTI (CŠOD)

Frankopanska 9

1000 Ljubljana

info@csod.si

www.csod.si

+386 1 2348 601

Responsible person: Branko Kumer, director

Design:

Design Demšar d.o.o.

Generic model is included in Theoretical Handbook ELaDiNa as special chapter. Here it is prepared as separated document regarding the project.

This handbook was prepared in the project *Early Language Development in Nature – ELaDiNa* (Erasmus+ KA2 Strategic partnership), funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CMEPIUS (Center Republike Slovenije za mobilnost in evropske programe izobraževanja in usposabljanja). Neither the European Union nor the granting authority can be held responsible for them.

Content

| | |
|--|----|
| Preliminary remark | 5 |
| Early language development | 6 |
| Language in general | 6 |
| How children acquire language? | 7 |
| Language development is based on interaction and communication | 8 |
| Children actively develop language | 8 |
| Children need a stimulating linguistic and non-linguistic environment .. | 9 |
| Phases, stages, and milestones | 10 |
| Short overview | 10 |
| From toddler to preschooler to schoolchild in terms of language development | 11 |
| Variability, milestones and hurdles | 12 |
| Nature as a language supporting environment | 14 |
| Natural spaces are special: characteristics, options, and affordances | 15 |
| Impact structure: Nature and early language development | 17 |
| Nature as an interlocutor without language | 17 |
| Children's developmental driving forces | 18 |
| Language development in nature and the role of professional support ... | 24 |
| Enabling nature experiences mindfully | 26 |
| Accompaniment as willing interlocutor | 27 |
| Knowledge of language, language acquisition and language promotion | 28 |
| Reflection of the own language use | 29 |
| Exercise and practice of the language supporting approach | 29 |
| Strategies and methods | 30 |
| Adopt a fundamental language supportive attitude | 30 |
| Follow the child`s lead - establish joint attention | 31 |
| Parallel-talk and self-talk | 31 |
| Confirm, repeat and expand the child's utterances | 31 |
| Corrective feedback | 32 |
| Name unknown words frequently | 32 |
| Use appropriate and rich language | 33 |
| Turn taking - pay attention to reciprocity in dialogue | 33 |
| Focus on quiet children | 34 |
| Asking questions | 34 |
| Telling stories – stories by children and for children | 35 |
| References | 37 |

Preliminary remark

The term “Generic Model” in the case of the trinational, European project “ELaDiNa” refers to its core content, rationale and essential methods. It is a model that is located in the elementary and primary pedagogical area and is thus oriented towards practical application in day care centres and elementary schools. The claim and the characteristic of the model are generic in the sense that “ELaDiNa” as an approach to action is or should be applicable by as many pedagogical institutions caring for three-to-seven-year-old children as possible - regardless of their specific national, regional, local, spatial, linguistic and cultural conditions. In this respect, the “Generic Model” is to be understood as non-specific and general.

The specific conditions in each case will of course play a decisive role in the reception of the model and will be formative for its practical application in schools, day care centres, and in education and training of educators and teachers. By being generic and non-specific, the model is intended to be suitable for a wide range of applications. Thereby it should also have a stimulating effect. The impulse-giving and creative, which is also echoed in the word “generic” and is rooted in the Latin root “genus”, is found here again.¹

Thus, “Generic Model” is taken as a synonym for an “approach to action” or a “model of action” that aims to inspire/stimulate/activate pedagogical practice with knowledge of reasoning and action.

The model is the result of many years of practical and theoretical work of the ELaDiNa project partners in the fields of nature pedagogy and language development of children. The crucial question here was and is how the language supporting potential of stays and experiences in nature can be developed. This model serves as the content umbrella of the project. The project intellectual outputs ELaDiNa Training Programme, ELaDiNa Theoretical Handbook and ELaDiNa Practical Handbook are therefore linked to it accordingly.

1 Otherwise, general and nonspecific meets an essential meaning of the term “generic,” and it is used in various contexts with meanings of different kinds. In linguistics, for example, generic terms denote whole classes of objects or persons - i.e., generic concepts such as trees, books, people - and generic statements are nonspecific generalizations. In IT contexts, generic programs and models are used to mean roughly general constructs that are applicable in all sorts of specific contexts. In biology, features of a genus such as the upright gait are generic features of humans. Generic products have also become known from the pharmaceutical field as generics. Here, they describe drugs for which the active ingredient is no longer patented and can be replicated by companies other than the one developing the product. The distribution and better accessibility associated with this is also to be wished for the Generic Model of ELaDiNa, although it is of course not a market-shaped or technical product or concept.

Early language development

The ELaDiNa model conceives opportunities of language support that open up when kindergartens or elementary schools leave their “everyday-four-walls” and carry out their pedagogical practice with 3 to 7-year-old children in open natural spaces. Thus, two important topics for early education are related to each other: language development on the one hand and nature experiences on the other hand.

To conceptualize opportunities of language support and to implement them by means of the model, linguistic findings of a very fundamental nature are of importance. Without an understanding of what constitutes language and how children acquire language, an important background of the language stimulating ELaDiNa strategies would be missing. Furthermore, the mechanisms and factors of intuitional language acquisition and its factually observable obstacles serve as an important orientation and field of reference for the model. Finally, the ELaDiNa model follows the idea of an integrated, holistic language support based on implicit language learning and not the idea of an isolated training based on explicit language learning.

Language in general

Language is constitutive for human existence and its being-in-the-world. Therefore, language development as language acquisition is a very basic existential phenomenon. It is not just a matter of acquiring the essential tool of thinking. It is also about the essential communicative function of language.

Communicating, interacting and cooperating with each other becomes far more multifaceted, differentiated, and ultimately more powerful by means of language than is possible in social cooperation with non-linguistic sounds and gestures - for example of non-human species.

The cognitive and communicative function of human language relates to the fact that only through language the world opens, i.e., humans are not dependent on the close interaction of instincts and environment.² Linguistic symbols and syn-

2 The term „world” is chosen here in the meaning as Plessner (2003) discusses it in distinction to „environment”. In his philosophical anthropology, environment-bound life signifies the strict correspondence between the blueprint of an organism, e.g., an animal, and the part of its environment that fits it. Environment means closed functional circles, boundedness, strong instincts, specialization. The human species, on the other hand, is characterized by instinctual weakness, physical unspecializedness and, above all, by the ability to use linguistic symbols by means of linking rules. It must become acquainted with an open world by acting, language-based and concept-forming.

tactical rules of linkage make it possible to imagine a world that transcends the immediate field of action and perception. Finally, human languages are enormously complex and very productive because of their combinatorial nature. They are not only collections of words, but - according to the well-known statement of W. v. Humboldt - "language must make an infinite use of finite means." (see Taylor, 2017, 219f). Thus, past, present, different futures and possibilities of action can be conceived. The world divides itself quasi dualistically:

- Into a world in the "here and now", which is accessible via sensory organs.
- Into a world that can be imagined beyond the material world which can be perceived by the senses.

These two worlds, which are interwoven in constant mutuality, shape the human world and self-relationship. It creates present, past and future. All possible dimensions of the human being such as cognitions, emotions, senses or drives are structured by language or at least influenced in an ineluctable way.³ Only language, concepts and logical sentences make it possible, for example, to deal with such fundamental affects as anger, rage, fear or jealousy in a socially acceptable way. Dealing with ambivalence conflicts in such a way that social emotion-based bonds remain stable is only possible if they can be verbalized and reflected upon.

Therefore, language is more than just a tool of thought and communication that can be picked up when needed: It "creates a context for human life and action", a "medium in which we move", a "feature of who we are" (Taylor, 2017, 175f).

How children acquire language?

Due to the enormous complexity of human languages, primary language acquisition is extraordinarily astonishing. No matter where a child is born, it will acquire language or even the languages spoken by the people of its immediate surrounding. Within the first four to five years the child will acquire the basic features of language.

Despite all the differences in specific languages and in the cultural and social conditions of growing up, the starting point, the mechanisms and interrelationships that affect a child's early language development are basically universal.

Taking a closer look at early language development, the following key linguistic and developmental findings emerge:

3 With regard to cognitive development, for example, only a certain level of language development at the age of 3-4years enables thinking to be detached from action, i.e., to become context-free and to transcend the here and now of an immediate (stimulus) situation (cf. Andresen 2004).

Language development is based on interaction and communication

At birth, a child has already passed the first, prenatal-symbiotic phase of its developmental process and actively engages with its environment, initially by means of innate schemes such as crying, sucking, clinging, eye tracking and smiling. It interacts. It communicates. Children are skillful communicators (David et.al, 2003). These early, very physical and sensory-based forms of interaction and communication can already be understood as reciprocal and dialogical.

The child would not develop without a reaction from its environment. It depends on the responsiveness of caregivers who react to the child's activity. However, the child does not yet have the actual means to conduct a dialogue in the narrower sense: the *logos*, which means "word" in Greek. This circumstance is still reflected in the etymological root of the word "infant", which goes back to Latin "infans" and means "to be mute, not eloquent". The human being is born speechless.

Still without the tools of speech, the child finds itself in a world of speaking people. One could say that it bathes in language without being able to articulate itself linguistically (cf. Simms, 2008, 165). However, the term language bath should not be used to evoke an association of passiveness.

Children actively develop language

From the beginning children are focused on language, in particular on linguistic utterances of their caregivers (cf. Karmiloff/Karmiloff-Smith, 2001). But the language-focused and speechless child is anything but passive and merely absorbing, but rather, based on its primarily sensory-bodily modes of action, it actively attempts to extract rules and meanings from the linguistic or sound stream of the environment. Gradually it tries out to influence the environment with its own words. (cf. Schäfer, 2012). It is always associated with enormous gains in autonomy when children can gradually use language actively.

How children recognize structures and rules in the sound stream and actively use them in their own speech production can be seen, for example, in the overgeneralization of rules. Such errors as "goose - geoses" or "mouse - mouses" cannot be based on imitation, since this is almost never heard in adults. Rather, they are productive errors indicating that a rule for plural formation is understood and applied quasi-generically.

It is possible that innate dispositions contribute to children actively developing language. According to Chomsky, all this happens because of an innate ability, a so-called "Language Acquisition Device" (LAD), which makes it possible to acquire the enormously complex structure of human languages (first published in Chom-

sky, 1957). Understood as a universal, it also explains that children can acquire any natural language without difficulty.

In contrast, usage-based theories of language acquisition, such as Tomasello's (2019), explain language acquisition not in terms of such an innate language-specific ability, but in terms of the use of language by the child's social environment. Also, with Bruner the focus can be put on the responsive social environment, the importance of "willing interlocutors". With Bruner (2002), a "Language Acquisition Support System" (LASS) can be placed alongside to Chomsky's LAD.

Children need a stimulating linguistic and non-linguistic environment

Language acquisition depends above all on adults providing appropriate input not only as mere language models, but also as "willing interlocutors" (Bruner, 2002, 31) to the children. Following Bruner, so-called "joint action formats" play a special role, i.e., parent-child interactions that offer predictable and comprehensible patterns of action for the language-learning child on condition of a familiar, secure parent-child bond or attachment. Such formats as repeated play with disappearing objects enable children to take decisive steps or leaps in language comprehension and speaking.

Linguistic actions are assigned to non-linguistic actions and objects and become linkable and understandable for the child. One recognizes from this the importance of the linguistic and non-linguistic language context, i.e., the attention of the adults towards the child and all the objects that are interesting, arouse curiosity or meet curiosity.

If such objects come into the child's horizon - for example, by pointing at them - a joint attention of child and adult can develop in this way, which is extremely conducive to language development. Even if the child cannot yet understand or produce all the meanings of the linguistic link between word, action and object, such situations represent key situations in language development. Here the child can experience linguistic surplus meaning in a meaningful action. In these meaningful situations language is learned along the way. The decisive factors here are: responsive adults who give linguistic meanings to children's utterances and objects, and a stimulating non-linguistic environment with objects and phenomena that interest and touch the child, making him or her curious. For the child linguistic expressions are meaningful in these situations because there is something to share or there is something to discover, something to experience.

In such meaningful situations, something arises that is very important for a child's language development as well: the joy and delight of speaking. The child experiences how effectively, almost magically, language can expand action.

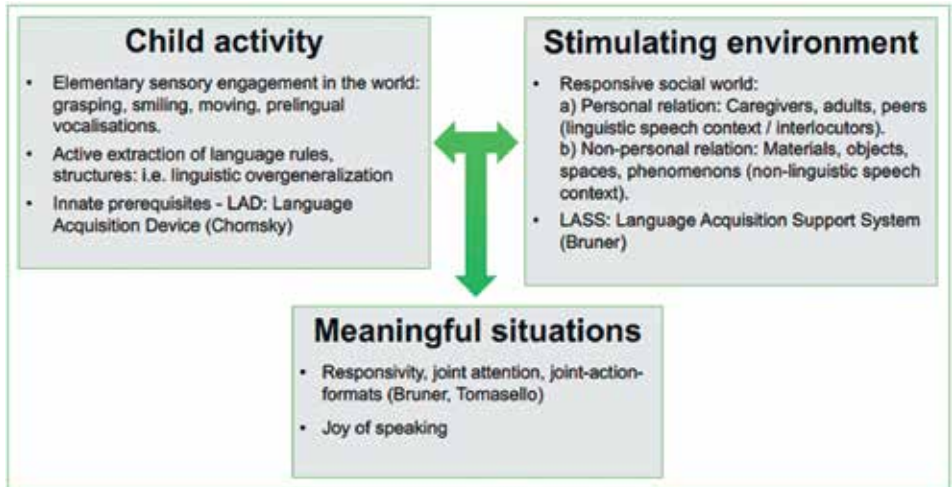


Figure: Key factors of language development - overview

Phases, stages, and milestones

To deal with the question of how children acquire language, following must be added to the above-mentioned key factors: the development of a child's linguistic competencies and performances takes place in typical phases or stages that build on each other and cannot be skipped.

Short overview

The progression can be divided very roughly into

- a pre-lingual phase up to the first spoken word at about one year of age and
- a lingual phase thereafter.

On closer consideration, this distinction is structured by many other phases, which in turn relate to different aspects of language acquisition. These include, for example, language comprehension, vocabulary, phonological competence, grammatical-syntactical rule competence, or situational use.⁴

Some selected milestones of these process are:

- At birth, nonverbal communication begins through pointing gestures, facial expressions and gestures.
- At about 6 months, children understand their first words and concepts (Rothweiler & Meibauer 1999).

⁴ For a detailed description see contribution by Novak & Dolgan in Theoretical Handbook ELaDiNa

- Children perceive speech sounds of the surrounding language in an increasingly differentiated way and produce the first word at about 12 months (Kauschke 1999). The first step and the first word are thus close together and mark the child's growing autonomy.
- At about 2 years of age, children have a vocabulary of about 50 words, which expands rapidly (vocabulary sprint). They now combine individual words. This is the beginning of sentence or syntax development (Clahsen 1988). Gradually, children produce longer word sequences and recognize different word forms and grammatical elements.
- At about 3-4 years of age, most of the morphological and grammatical elements of a language have been acquired if language acquisition is undisturbed (Sachse 2015). Also, children begin to decontextualize language, i.e., they can detach language from the "real" situation (Andresen 2004) and some children already use the subjunctive in role play.
- At about 5-6 years of age, primary language acquisition is usually advanced to the point where the child understands passive sentence constructions and can form more complex sentences with various conjunctions.
- At around 6-8 years children use languages at a higher level, i.e., they use appropriate grammar in speech and written work and: many children become better storytellers.

From toddler to preschooler to schoolchild in terms of language development

Up to the beginning of school age, language acquisition is enormously fast and characterized by a rapid increase in language competence and performance. It is plausible to assume that there is a critical phase up to the third and fourth year of life, which represents the linguistic foundation for all later phases (cf. Oevermann, 1972; Hirsh-Pasek & Golnikoff, 2003, 91). However, especially for the kindergarten and beginning school years, there is a markedly high receptivity of children to linguistic impulses, which can also be related to the great neuronal plasticity of the brain in childhood.

Under normal conditions, the beginning of kindergarten between the ages of three and four is a phase in which children have already mastered most of the grammatical structures of their native language. They can form longer sentences and also have a relatively differentiated vocabulary and daily vocabulary growth. Also, the word meanings have approached the adult language far. For Andresen (2004, 57), the fourth year of life represents a phase of radical change that has to do with the grown linguistic-communicative abilities.

Many children develop a completely new interest in language during this time. To explore the world, for example, they use their increasingly rich linguistic foundation in countless why- and how-questions.

One change in particular should be emphasized: Children begin to decontextualize language without already being able to think in abstract terms. More and more they can detach language from the „real“ situation e.g. in storytelling. It is no longer just the language use of dialogue and conversation about the perceived situation. Increasingly, it goes beyond the here and now of a situation. The gradual use of the subjunctive, which is the language's form of possibility, also fits in with this.

A further language-related challenge comes with school entry: the acquisition of written language. Reading and writing means an enormous developmental step for children, since in participation in society is linked to the mastery of written language. It is the visible step from oracy to literacy. However, literacy is based primarily on predictors acquired in oral: Vocabulary, storytelling, and phonological awareness (Hirsh-Pasek & Golnikoff, 2003, 102ff).

Variability, milestones and hurdles

The phase descriptions of language development are oriented towards a successful norm development, with approximate time spans. However, the individual developmental processes are highly variable and do not adhere to exact milestone specifications in terms of time.

The high variability is evident, for example, regarding the acquisition of a second language, which enriches the child's language development. Basically, second language acquisition follows the same principles as first language acquisition, i.e., children gradually pick up the language of their environment in communication. Depending on whether the acquisition of several languages occurs simultaneously from birth or successively from 2 to 4 years of age or successively from 4 to 7 years of age, different conditions result. The later a second language is acquired, the greater the transfer effects from the first language, which can also lead to problems, especially in the acquisition of the grammar of a new language.⁵ Overall, given children's high receptivity to language stimuli, second or multiple language acquisition represents an extremely valuable expansion of language capacity. The phase structure remains but may shift.

5 From about 7 years of age the grammatical competencies of the first language are automated in the speaker to such an extent that a spontaneous, uncontrolled everyday language acquisition of the grammatical system is hardly possible, and it requires the conscious application of grammatical rules as in the learning of foreign languages in school.

The high variability can also be seen, when children at the age of two actively use less than 50 words, hardly speak and do not form two-word sentences, but then catch up and no longer show any language problems.⁶

But with all normal variability, there are variations that can be problematic:

- An increased number of children have speech problems or even disorders that can negatively affect their developmental process. Thus, a deficient language development is a predictor of social disadvantage: For example, school dropouts are significantly higher (see Law et.al., 2009).
- Bernstein (1964) already pointed out that lower social classes have less supportive language-stimulating environmental conditions than upper social classes, which may be manifested in different language performances: speaking in terms of restricted or elaborated codes (see also Clegg & Ginsborg, 2006).

Despite the diversity of the individual problems, it can be stated for very many cases: The “decisive factor for deficient language acquisition [is] an inadequate language environment” (Neumann et.al., 2009, 9).

Studies such as the influential one by Hart & Risley (1995) about “meaningful differences” have examined the quantity and quality of parental language input with respect to the socio-economic status of families. They found impressive differences between lower and higher socio-economic status families. According to this, significantly more difficult language environments exist in lower class families: Far fewer direct parent-child speech acts take place and the emphasis is on following orders and rebukes rather than on affirmation, recognition, and the rewarding nature of linguistic interaction (cf. Hirsh-Pasek & Golnikoff, 2003, 89ff). However, these findings are suspected of branding the language styles of socially disadvantaged, poor, lower-class parents as deficient (Dudley-Marling, 2009). Indeed, too quick and easy attributions and conclusions interpreting correlations as causalities should not be made. However, general attention should be drawn here to the correlation that parental speech acts addressed directly to the child have an important impact on child language development. Many findings from linguistics show this (e.g. Hoff, 2003; Huttenlocher, 2010). Infants who experienced more child-directed speech became more efficient in processing familiar words in real time and had larger expressive vocabularies (Weisleder & Fernald, 2013). In any case, quantity and quality of language input play a major role.

From a social and educational perspective these findings about differences in language development and its environmental conditions matter a lot. Even in the case of children with language problems, developmental delays or disorders, the basic

6 However, there is also a high proportion of so-called “late talkers” who do not become “late bloomers” and develop serious language problems, for example, due to a lack of language stimulation. (cf. Zollinger, 2010, 290).

mechanisms of language acquisition are not suspended. Therefore, explicit learning in the style of instruction or training runs the risk of setting up a stigmatizing separate world for the young child, which would make learning more difficult. In any case, the process of how linguistic abilities are formed in childhood is a central developmental process of every individual. Finally, as already discussed, language is a key to the world - and to oneself.

As it was pointed out, primary language acquisition occurs incidentally in the context of meaningful, dialogic communications in a responsive linguistic and non-linguistic environment. Without instruction, but with language partners. An everyday integrated language support, which addresses 3–7-year-old children, should be oriented to this.

Without the influence of the non-linguistic environment of a child, the stimuli for action and atmospheres emanating from it, the development of language would be grasped too one-dimensionally. Bruner's concept of the "Language Acquisition Support System (LASS)" is mainly referred to the social world in the form of reference persons. But the social world also includes the world of things, which is stimulating, meaningful or significant to a greater or lesser extent. When it comes to things, linguists mostly think of artifacts, i.e., intentionally produced objects. The instructive picture book in the hands of the mother facing the child may be a typical image here. But the "LASS" can be equally extended to the support of the non-human world, of non-human beings, things, atmospheres or phenomena - to nature. It has a special potential.

Nature as a language supporting environment

Natural spaces⁷ are characterized by an interesting stimulation potential for child development and especially also for language development. Compared with mostly regulated and designed everyday spaces, natural spaces are strangely different. Particularly because they are not designed and are characterized by the sphere of the non-human, they open possibilities for experience, interaction and communication that are not provided in classrooms, nurseries, or group rooms in kindergartens.

7 Nature is to be understood here in the classical sense: It is the section of the world that has been created and developed without the constant intervention of humans, accordingly, has inherent arbitrary dynamics not produced by humans, is perceptible to the senses, and is part of the human lifeworld (cf. Seel 1996, 20). In very practical terms, it is about open natural spaces or landscapes that are more or less wild and accessible to people.

Outdoors in nature, many children and even groups of children behave differently than they do indoors. Children who adults might not expect at first open up and become talkative while enthusiastically picking leaves or mushrooms. Other, more restless children settle down and become absorbed in investigating an old rotten tree stump and talking to a centipede there. Others loudly negotiate the order of when each child is allowed to hold the blue iridescent beetle in its hands - but the creepy-crawly has its own ideas and crawls up the anorak sleeve under astonished glances: Questions arise like: "How does he do that with his skinny little legs?"

Situations in nature are often characterized by such special dynamics. The exemplary scenes already hint at the language-promoting potential that can lie in the natural non-linguistic environment. What actually characterizes natural spaces in this context?

Natural spaces are special: characteristics, options, and affordances

Of course, natural spaces can be very different: Open fields, broad-leaf forests, mixed forests, boreal forests, water landscapes on rivers, streams, lakes or the sea, rocky landscapes, snow or ice landscapes - to name just a few natural spaces typical of many areas around the world. "Most natural landscapes are composed of water in its liquid or solid state, plants, rocks/minerals, or a combination of the three" (Li et.al. 2023). However, this consideration captures primarily what is permanent and enduring about a natural area. This is not sufficient.

Despite all the specificity that distinguishes the concrete accessible natural areas from each other, the following can be considered as a common denominator: Each individual natural space offers a universe of wide variety and diversity, which is after all not only characterized by different plants, rocks or/and waters. Natural spaces and landscapes are animated and in constant seasonal and diurnal, weather-related variations and changes. They offer a continuous change of light and dark, cold and warm, near and far, wet and dry; it imposes itself on sensory perception in that, for example, wind, temperatures and surfaces stimulate the skin, light, colors and distances affect the eye, up to multiform stimuli of the auditory and olfactory space or even of the balance (Sebba, 1981). Natural environments are full of surprises, full of liveliness and at the same time they represent constancy and permanence. This makes them an exciting play and activity space for children.

The abundance of unknown things and living beings, the range of motion, the possibilities to play and have adventures rarely present themselves indoors. In nature, small and big mysteries and secrets open up under stones, there are strange crawling animals with countless feet, others without feet in dead wood or in a puddle, but also soft, fluttering moss, huge trees that protect from the rain, sticks that act as magic wands or balancing sticks, atmospheres that invite you to linger or even

to set off into a canyon: The variety and quality of options meet children’s motivation to experience the world intensively.

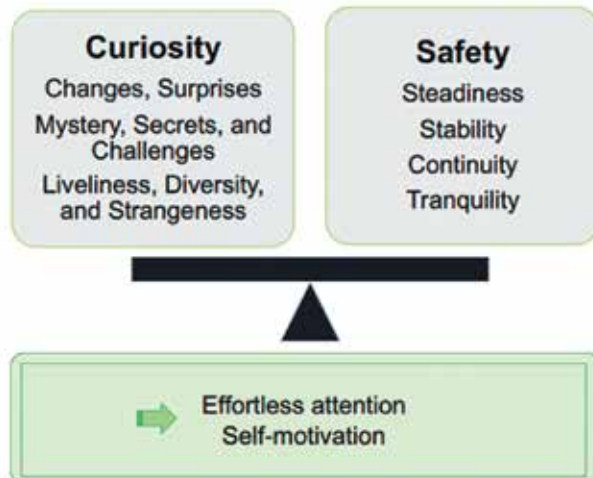
These descriptions are not mere descriptions of features, but they explain the complementarity of spatial features and possibilities of action of a subject. Gibson’s (1979) notion of “affordances” can also be used in this sense. The term emphasizes a kind of fit of space to motives for action and, in particular, the intense perception of the person acting. In this respect, the features of natural spaces can be understood as opportunities and demands for action that intensely engages the child in an activity, e.g., discovering, moving, exploring, investigating, understanding, proving oneself, or coming to rest.

Generally stated, the qualities of the natural environment are conducive to children’s development. The manifold special features of the different natural areas can be summarized in a broad double structure:

- On the one hand, nature is challenging, surprising, diverse, lively, mysterious, resistant and constantly changing, while
- on the other hand, it presents itself as something continuous, enduring and sheltering (cf. Gebhard, 2001; Kahn & Kellert, 2002; Sebba, 1991).

The two aspects accommodate the two important motivational bases of curiosity and safety. For children in particular, curiosity always means physical curiosity too, i.e., being free to explore space according to their own plan and to take and manage risks. Natural spaces are predestined for this.

Moreover, the stimulation potential of natural settings seems to enable forms of attention that are virtually effortless and above all self-motivated without being over-stimulated (see Kaplan, 1995, 172). These forms of “effortless attention” provide favourable conditions for intensive learning processes and intensive experiences.



In summary, natural spaces can be conceptualized as extraordinary, stimulating experiential spaces. Extraordinary here also means that they represent a kind of counter-world for many children and also adults in view of increasing distance from nature, urbanization and domestication. The ELaDiNa model therefore advocates, like many outdoor educational initiatives and approaches, that we do not lose sight of accessible natural spaces even more, but rather create access and promote closeness to nature for good reasons.⁸

Impact structure: Nature and early language development

The stimulating and demanding character of natural spaces represents the basis of the language-promoting model. The demands create meaningful situations that are speech and language prompts. Thus, ELaDiNa picks up the significant connections for language development. The approach supports early language development through

- focusing on intensive and multi-sensory engagement,
- to create meaningful situations of mutuality
- in an optimal stimulating natural environment.

This sequence echoes elements of the pathway to raising attainment through outdoor learning (Waite et al. 2015). It deepens the interplay of children's activity and motivation on the one hand and non-linguistic natural environment on the other hand.

Nature as an interlocutor without language

Although nature as a non-linguistic environment cannot speak in the literal sense, the metaphorical figure of a talking nature – *natura loquitur*⁹ – or a nature turned towards can illustrate the demanding character:

“Trees want to be climbed, berries want to be eaten, mushrooms want to be picked and animal tracks want to be identified and followed, unknown flowers, ferns and mosses want to be identified, bushes are alluring hiding places, insects want to be studied at close range, animals assumed to be there want to be found, sounds want to be investigated and strange smells identified and the sudden outburst of colour in the autumn wants to be explained.” (Becker, 2011, 7f)

8 The question of access to natural spaces as an open landscape always refers to legal foundations, which can be very different in different countries. Access rights must therefore be clarified in advance and, if necessary, also fought for.

9 In literary studies, this is a topos to capture the nature poetry of the Romantic poet Joseph von Eichendorff (cf. Bormann 1968).

For children who have a sense of wonder and exploration, this is a valid description of a forest with its sensory diversity and concise phenomena and atmospheres. In the literal sense, nature cannot speak, its mode of encounter is sensory and tangible, not abstract and distant. But metaphorically, nature can become an interlocutor. An old aphorism expresses this connection pointedly:

“Nature: She has neither language nor discourse; but she creates tongues and hearts, by which she feels and speaks.” (Tobler, 1869 (1782))¹⁰

With regard to the communicative framework conditions in natural spaces, further positive effects on the support of children’s language development can be found, especially in groups of children: Particularly in comparison to indoor spaces, where many institutions spend most of their time communicating with children, natural spaces are much less exposed to noise and disturbance. The acoustic space of a forest or an open landscape is already interesting in itself as a differentiated, rich soundscape. Noises and sounds are usually heard very clearly and without distortion, which can be perceived as harmonious and stimulating. Usually, the noise level is much lower than in the corridors, classrooms, or group rooms of educational institutions, where the sound of noise sources is reflected or refracted on many smooth surfaces. One’s own talking, walking, or working is less intrusive in open spaces because the distances between people can also be larger.

Natural rooms are therefore extremely favourable for language development, since no noise-induced, sickening stress makes communication more difficult and listening to each other is possible more effortlessly and accurately. Due to the spaciousness of the room, there are also fewer process interruptions and disturbances.

Children’s developmental driving forces

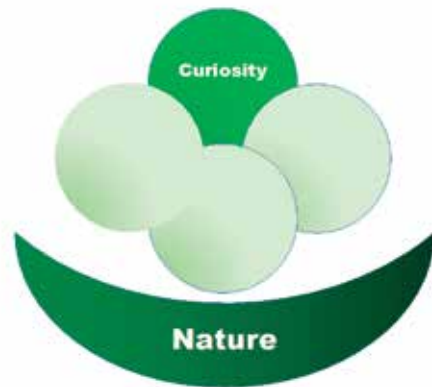
It has been outlined that the stimulation and demanding potential of natural spaces corresponds to children’s developmental needs and children’s motivation to act. This correspondence is crucial to the language-promoting intent of the model in order to establish meaningful language situations. The following four selected driving forces are particularly suitable for making the connection between nature-child-language clear. They overlap and are interwoven but can be distinguished and named in their specific language reference.

10 The quotation comes from an aphoristic essay that Goethe included in his writings but was probably written by the Swiss writer Georg Christoph Tobler, who moved in Goethe’s circles in 1781. It served as a preface and prelude for the first issue of the renowned scientific magazine “Nature” in 1869, translated by editor and friend of Darwin F.R.S. Huxley who called it a “wonderful rhapsody on ‘Nature’”.

1. Curiosity – the lust for the new

Development is based on the confrontation with the new being a synonym for the unknown, unfamiliar, or strange. On the one hand, the new triggers a kind of crisis that a subject wanting to develop must face. The unknown new, something strange or a mystery objectively irritates the routine action. It is unsettling. On the other hand, however, from an early age, children possess a curious, open basic attitude that enables them to face new and unknown things - in measured doses, of course - to explore them and even to seek them out

independently. “Curiosity causes disquiet in the individual and this disquiet can only be relieved by the unfamiliar” (Becker, 2016, 24). However, for the curious child, the new, which differs from the known, is not an irritation to be avoided. It rather resembles the “nutritional value of a food source from the perspective of the hungry” (Bischof, 1985, 241). How natural spaces can serve this hunger with countless remarkable phenomena – the variety of forms of life – has been outlined earlier in the generic model.



To activate curiosity, a “relaxed field” (Bally cit. Franzmann, 2013, 207) contributes so that children are not overwhelmed, and fear becomes dominant as an antagonist of curiosity. When looking at conditions conducive to exploration and curiosity, external and internal factors become issues:

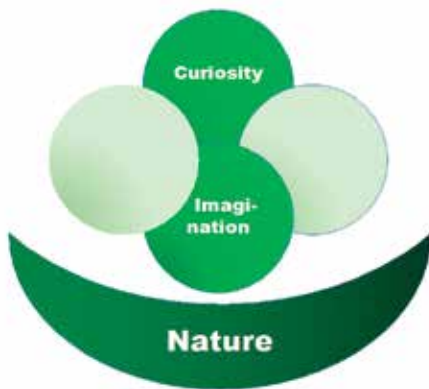
- Natural space, with its double aspect of curiosity-awakening change and variety and safety-providing stability, offers good conditions as a non-linguistic environment.
- But also, the social framework as a linguistic environment plays a major role here.
- The inner source of safety, self-confidence, ultimately determines aversive or curious behaviour. It is both a prerequisite and a result of exploring the new. If the conditions are right, then children are predestined to immerse themselves in dialogue with the new without time pressure.

Acting out of this central driving force of child development is directly linked to language development. Curiosity as an active dialogue with the unknown, which can also be called questioning the unknown, tries to find out what the unknown is all about, what it is called or what it can be compared with. It is obvious that this means a direct speech impulse. Unknown natural phenomena raise all kinds of questions - the most obvious question is “What is it?” or more complex “Why is that?”. The unknown, which falls to attention, is found or imposes itself and is

not yet determined and named. Names, words and explanations for the unknown must be found.

The interplay of curiosity and nature becomes a stimulus for speech, which, depending on the available interlocutors, can become an impulse for a longer conversation. Curiosity, the lust for new, the thirst for knowledge is awakened and “fed” when children find exciting objects and phenomena in need of explanation.

2. Imagination – the lust for the possible and the impossible



The power of imagination is linked to curiosity. Curious questions like “What is under the stone? What is behind the tree?” are always associated with imaginations, inner images, or intuitions about what it might be. While this can be promptly clarified in real terms, the imagination is far more involved in more complex questions of where from or why – where does the wind come from? Why do some trees lose their leaves in the fall? In this context, abstract-theoretical ideas and explanations build on different forms of action-based,

sensory-based, and story-based thinking (cf. Schäfer, 2009):

- Inner images and ideas that form in and from movements (concrete thinking). Inner images can be imagined not only as visual images, but also as auditory, olfactory, tactile or gustatory images.
- Imaginations that are formed when collecting, ordering, and constructing things (aesthetic thinking).
- Linguistically based ideas that process experienced scenes as metaphors, e.g., when children say “The earth is melting” while standing in mud. “This is like...” explanations are “perhaps the most important form of early childhood explanation of the world at a time when children are discovering the world” (Schäfer, 2009, 95). These are intuitive or naïve theorizations. Animistic ideas of good and evil stones or clouds that become snakes can be equally associated with these forms of narrative thinking. It is an „animated world that Piaget (1929) described, where the sun and moon follow young children on their walks and where stones need to be turned over so they won’t get tired of looking at the same view.“ (Chawla 2008, 218) Then the freezing trees make the wind because they tremble and move so much. This also refers to thinking in terms of whole stories, in which children can think and express cause-effect and basic-consequence relationships, i.e., logical reasoning in terms of form (narrative thinking).

- In the transition to theoretical conceptions, children must increasingly place their conceptions of order in a new, non-subjective context. Ideas they have acquired on the basis of concrete sensory experiences and linguistic metaphors, animisms, and stories remain the focal point. But this knowledge of the world will increasingly have to be read out of everyday contexts and embedded in scientific theoretical references – from senses to logic (theoretical thinking).

Imaginations are directed on the one hand to the possible in the real and on the other hand to the impossible, which cannot appear as hidden.¹¹ Crucial potencies of the human being, such as vitality, sensitivity, emotionality, inventiveness – dreams, daydreams, or wishes – enter into imagination.

For example, imagination can invent stories that need to be told. An important source of imagination is imaginative play or role play, which are often nothing more than narratives in action. By the age of two, children are generally able to encounter the world in the mode of “as-if”: They have the ability to ignore reality and construct an imaginative space that over-shapes the here and now.

Language-based negotiation is essential in this process, which is why this represents a valuable language occasion. Natural spaces also unfold their special prompting character here. In the forest, for example, there are many small play areas, e.g., niches, in the large space. There is less disturbance from other children, and the role plays are significantly longer and more intensive (Kirkby, 1989).

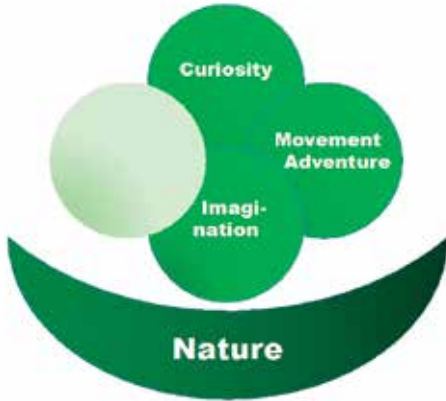
Besides, especially the abundance of shapes, sometimes strange, suggestive figures and forms, the variety of colours and materials stimulate the imagination. Suggestive shapes of, for example, rocks, tree bark, or flowers are recognized as noses, trunks, or whole faces. This corresponds to narrative thinking and physiognomic perception that is extremely childlike. There is nothing with clear play or educational purpose. The objects and atmospheres are not purpose-bound and thus have a special imagination-stimulating quality.

3. Movement and Adventure – the desire to dare

The desire for movement, which is the center of the child’s personality and the focal point of his or her existence (cf. Fischer, 2010), finds optimal conditions in nature as in probably no other space of action for children. The meaningful situations that can be evoked when freely acting out this childlike driving force point to a deeper connection between movement and language development.

Speech is itself a part of motoric coordination and includes facial expressions, involuntary and voluntary gestures. “Linguistic utterance comes out of movement

¹¹ Following Popitz (2000, 92), imagination can be understood as “bringing out the hidden into the present” and “entering the hidden”.



and represents a continuation of the acting movement” (Merkel, 2010).¹² Speaking in childhood is still associated with whole-body movement for a long time. Childhood speech is accompanied by sweeping movements and is never so immobilized as in adults, where movement is on low flame.

In the natural environment, the movement and language development of children from the age of 3 years foster each other in a special way. For example, children continue to expand their movement repertoire, primarily by testing their balance in many forms of movement such as running, jumping, climbing, balancing, and much more. It’s all about gravity safety through the most varied stimulation possible to gain safe movement schemes that are memorized in the body. Spatial explorations and movements up and down, right and left and front and back mean enormous gains in autonomy and stability as an actor in three-dimensional space.

Already the incomparably uneven and not always visible ground in natural areas challenges the balance and represents a risk for untrained walkers.

ELaDiNa now focuses on the close link between movement and language to the effect that movements in nature are often challenging and risky.

Nature provides a huge variety of movement opportunities that are not ready-made. Balancing, climbing, jumping, hiding, crawling, sneaking, sliding, hanging, running and much more in nature is often tied to the fact that, unlike in the playground, children must actively seek out and recognize opportunities. Such situations follow a logic of their own, they inherently contain resistance that sets conditions to which one must react, e.g., to overcome them.

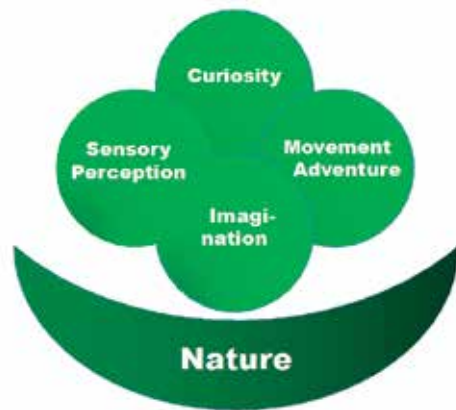
The child’s desire for free, self-chosen movement finds an ideal space here. Intensive experiences in adventures suitable for children mean above all: To dare something, to take a risk and to experience an adventure, urges to be told. Sharing and communicating what you have experienced in the form of stories is a speech occasion that often blends fiction and real experience.

¹² An example: a child wants to grab its teddy, but cannot reach it, so it points to it. The adult will give him what he wants, provided it is clear what he wants. But pointing is never quite clear, the word “teddy” is. “This is what makes speaking so attractive: language gives magic hands” (Merkel, 2010, 58).

The narrated adventure is not only reflected in the well-known saying: “Whose heart is full, his mouth overflows.”¹³ It likewise reflects an important nexus of language development: As an implicit process, children acquire language in situations that are important for them and that are intensively experienced. Therefore, in meaningful situations things that children experience are not “things in themselves” but “things in an action context”, they are “action things” (Schäfer, 2003, 10 quoted in Merkel, 2010, 57). Movement, however, was more implicit than explicit in the noted mediators between nature and language development in the ELaDiNa evaluation.

4. Sensory perception – the lust to activate all senses

Perception via the various sensory channels represents the interface between the human being and the world, between the inside and the outside. A well-developed perceptive capacity is the basis, but also the result of children’s experiences in the world. The developmental process begins on a sensory basis and language development in particular depends on and draws on the fact that children experience the world with all their senses. Particularly in the first years of life, brain development depends quite significantly on the sensory stimuli that the child perceives (Zimmer, 2009).



For children, a distinct desire to perceive can be claimed. They are predestined to devote themselves completely to perception and to open their senses without any external purpose or constraint to act. This ability of self-sufficient perception expresses itself above all in curiosity and imaginative processes and their very sensorial beginnings, e.g. when children occupy themselves for hours with the materiality of water and soil and especially with the mixing of both elements.¹⁴

A closer look at the various perceptual systems involves stimulation of the distant senses via the ear and eye and of the proximal senses close to the body via the skin, proprioceptors in muscles, tendons and joints, the organ of vestibular balance, the tongue and the nose.

¹³ The original biblical quotation from Luke (6:45) is somewhat different: “For the mouth speaks what the heart is full of.”

¹⁴ Children can therefore be described as protagonists of aesthetic experience (cf. Oevermann 2004; Garz&Raven 2015; Vollmar 2020).

For all these systems natural spaces are ideal sensory spaces due to the diversity of their manifestations. They are characterized by an enormous sensory diversity. Since the colours, forms, materials, moods and atmospheres that can be found in nature are so varied and concise, the world of senses can be combined with the world of words in an excellent way. Words can be sensorially underpinned when the denoted things are touched, felt, smelled, taken apart, tasted, heard, observed and more.

Words are only alive as sensorially underpinned words because their meaning is more saturated and richer. "Without concepts, perceptions are inconceivable; without perceptions, concepts are meaningless," said the philosopher of the enlightenment Immanuel Kant (2007).¹⁵ This quote also points out that a fast mapping of a word or name to an object is only the surface or the linguistic shell. Naming a new or not yet completely familiar object fulfils the need for classification and naming and children learn new words very quickly. But the meaning of a word is only developed in a longer process involving as many sensory impressions and sensory knowledge as possible.

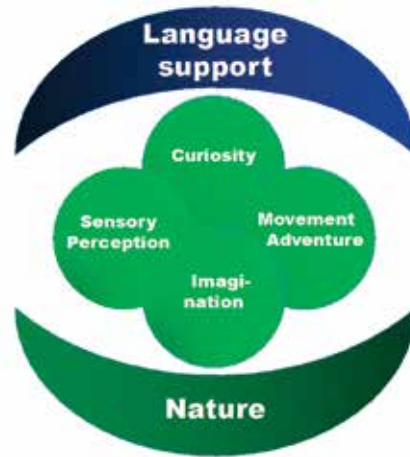
The possibilities and stimuli of the natural world support the interplay between sensory exploration and conceptual understanding of the world. Multimodal concepts promote language development. The close connection of sensory perception and linguistic expression meets the general findings about the key factors of child activity via sensory engagement in the world and a stimulating environment.

Language development in nature and the role of professional support

The key factors of early language development – sensory encounters of the world, stimulating environments, and implicit learning in meaningful situations – have been related earlier in this document mainly to the affordances and prompts of natural spaces on the one hand and children's developmental driving forces on the other. In other words, PLACE and children's response to it. However, the model would be incomplete if the contribution of the adults or, in the pedagogical framework, the teachers and educators were not also included. They play a key role and are encompassed in the PURPOSE, PEDAGOGY and PEOPLE of our overarching theoretical framework for ELaDiNa.

¹⁵ In German, the sensorial root is contained in the word for understanding and concept: "Begriff" and "Begreifen" come from „greifen“, to grasp.

As the part of the environment that significantly constitutes the linguistic language context, adults have a considerable influence on a more or less successful language development of children. Obviously, the way adults react to or help initiate children's activity is crucial, even though ELaDiNa takes the sensory world of experience as a starting and reference point when linking nature with language development. But the relevant findings about language development in general remain valid also for language development situations in nature.



An ideal-typical, very schematic, but nevertheless helpful chain of actions illustrating the ELaDiNa idea is the following:

1. Children engage with the affordances of nature.
2. Teacher or educators pick up and deepen children's topics.
3. Children develop their language skills in exchange with teachers or educators through dialogues or storytelling.
4. Children are encouraged to engage further on and to use new language concepts.

Before appropriate strategies and attitudes necessary for the 2nd and 3rd steps are presented, however, the preceding or superordinated aspect of pedagogical framing in nature should be considered. It refers to possible obstacles that affect step 1. This is because the extra-ordinary character of natural spaces poses special opportunities and challenges for professional accompaniment. Thus, teachers' and educator's attitudes, knowledge, and skills are a critical factor in children getting into meaningful situations in the first place. Conversely, the attitude, lack of knowledge, and inability of teachers and educators can be very obstructive when it comes to children having valuable nature experiences.

The following are important notes related to the general pedagogical framing of nature activities in terms of attitude and knowledge and the general role of language support by teachers and educators.

Enabling nature experiences mindfully

- In order for meaningful situations to arise, which then open up opportunities for language-promoting dialogues or storytelling, children must be given plenty of time and free (natural) space. Hurry is out of place here. It's not about getting something done, but about engaging with something that engages you. For educators and teachers, this means accommodating the children's pace and their particular approaches and attitudes to nature as much as possible.
- Nature has its own time and place, and often this is not within one's control. For children, this could be disappointing or boring – for example, the large and exciting animals that children know from picture books, or the world wide web can rarely be seen in the local environment. Patient discovery therefore needs time, experience and an interested and knowledgeable accompaniment. Nevertheless, our evaluation findings confirm that wild animals of whatever size and shape are highly stimulating and interesting for children.
- Particularly those children whose experiences are increasingly formed by attractive toys and digital media, whose senses are shaped by the speed and event character of countless children's media, must first be introduced to nature. Nature is often strange and unknown to them. Even if natural spaces with their special atmospheres often take hold of the children, for example by creating feelings of freedom, not all children may be receptive to this initially. However, for curious discovery, imaginative play, adventurous movement and focused perception, an atmosphere that has been described as a "relaxed field" is helpful. Professional accompaniment should ensure a correspondingly relaxed framework for action by providing time and stimulating space on the one hand, and sufficient security and attention on the other.
- In cases where children appear bored with nature, it is advisable to endure this. Here, too, time is needed. Children may react bored because they are unfamiliar with natural spaces. In general, child boredom need not be understood as a pressure for the teacher or educator to immediately offer alternative specific motivational tasks or games. "Boredom is (...) nothing else than a strong curiosity in an environment poor in stimulation" (Franzmann, 2013, 207) - or in a poorly perceived environment. But stimulation from nature or from the activities of other children or the educator will usually take effect over time. The interplay between curiosity and mystery or new phenomena will occur for most children.
- Some children react with fear in nature. For them, nature is too strange, because they do not associate (positive) experiences with the forest, the field or the river, for example, or generally have little confidence in how

to negotiate it. Overprotective parenting styles, previous traumatic experiences, or negative images of nature, which have been culturally conditioned, are possible reasons for these attitudes. These children feel too little safety to allow them to explore. An adult companion can become important as both a role model for positive attitudes and a safety-giving, mindful caretaker who is comfortable in, and knowledgeable about nature and thereby act as a kind of bridge builder between the child and nature. A good relationship between him or her and the children is crucial.

To convey the ELaDiNa idea of professional support for language development in nature, the following can be summarized as a guiding principle: The stimuli of the natural space become effective for children when they are accompanied in a

- gentle,
- attentive,
- patient,
- understanding and
- permissive way.¹⁶

Accompaniment as willing interlocutor

Especially the early stages of language acquisition depend on interpersonal conversation and joint action. Language can only be learned and improved in exchange with others. Adults, as competent speakers, are admittedly not the only ones who make up the linguistic context of the environment. Children increasingly address their speech acts to their peers as well. But before the age of 3, children are mainly adapted to linguistic communication with adults. Communicating with peers requires even more mental coordination for language-learning children (Tomasello, 2019, 186). However, peer communication tends to apply and consolidate what has been acquired in communication with competent speakers. So, what has been said so far only makes sense if it is placed within the framework of social interaction, and that means here above all the quality of interaction between children and adults. This relates to the PEOPLE in our overarching theoretical framework.

¹⁶ Of course, permissive does not mean careless moving in natural spaces. The responsibility for assessing and possibly limiting the dangers and risks of the natural environment lies with the adults. Therefore, a precautionary look at possible dangers is part of the daily routine when going out. However, the topic of safety should not lead to adopting a pessimistic no-risk attitude aimed primarily at-risk avoidance. This would mean losing sight of the pedagogical and, by the way, legal dimension of children's autonomy and development. Precaution with a sense of proportion should be understood in such a way that children are allowed to take risks, for example in balancing and climbing. Safety comes from dealing competently with risks, not from avoiding them. This safety pedagogical maxim should, of course, always be accompanied by an open view of the space and its dangers. In order to be able to assess and better avert dangers typical of nature or the forest, arrangements should be made with experts if necessary and rules of behaviour agreed upon with the children and parents.

It is not only the quantity and quality of the offered language that is important, but also the ever-present relationship between adult and child. The appropriation of the world always takes place with and in relation to the interlocutors (see Merkel, 2010, 57). This applies to the first “formats of interaction” (Bruner) between child and caregiver up to learning and educational processes in middle childhood. Appropriate behaviour that promotes language is based on being a willing interlocutor for children by responding appreciatively and sensitively to children’s impulses to act and speak. Such responsiveness includes being a linguistic role model and also initiating language learning situations with linguistic impulses such as storytelling.

This highlights the crucial role of professional support for kindergarten and primary school children in terms of language development. The qualification of the professional is somehow the major lever with which language opportunities of the natural environment can only become effective. Nature, in a sense, is full of words like the forest is full of trees. But to discover and use these words, qualified adults are key. In contrast to the family context, where intuitive parental didactics support language development, educators and teachers should act in a language-supporting way that is as reflective as possible.

Reflexivity refers to one’s own language-promoting attitude and behaviour, the necessary language-related knowledge and language-promoting skills. This addresses three dimensions that are essential to the ELaDiNa model of professional support:

Knowledge of language, language acquisition and language promotion

For successful professional language support, it is essential to have a well-founded idea of:

- what language actually constitutes,
- the extent to which language constitutes the human being,
- that language arises from communication,
- what characterizes the stages and milestones of language development,
- the advantages of an integrated, holistic approach of language promotion,
- how second language acquisition works,
- what role curiosity, imagination, sensory perception, movement and adventure play or,
- what language opportunities natural experiences and natural spaces offer.

The generic model provide important references and further reading for answering such questions.

Reflection of the own language use

The awareness of one's own language behaviour is an important prerequisite for the acquisition of language-supporting behaviour. Initial reflection questions for this could be the following:

- How clearly and intelligibly do I speak?
- How do I accompany activities?
- Do I give many instructions?
- Do I ignore questions from children?
- How do I react to incorrect speaking of children?

Exercise and practice of the language supporting approach

ELaDiNa ultimately also aims at the practical application of language-supporting behaviour and methods. The way in which knowledge and skills are developed and how the transfer into practice can be supported are essential issues of the ELaDiNa concept. Since implementation of effective language development support in nature (making the knowledge and skills one's own and transferring them into one's daily practice) cannot be done by reading alone, practical qualifications for teachers and educators for the implementation of the ELaDiNa model have also been established through the training programme and practical handbook.

A detailed experience-based concept with practical exercises and transfer ideas is available with the ELaDiNa training programme supporting the real situation in the practical field of work. Action-oriented tasks, practical exercises, role plays, theoretical inputs, video analyses, reflection units, practice focusing with pocket cards and own videographed practice are suitable forms of teaching and appropriation of knowledge and skills. The concept brings together two structurally different spheres:

Training practice, which is relieved of the constraints of pedagogical practice and opens up a productive sphere to deal with new contents and to reflect experiences.

Work practice, in which there is always real pressure to act, and real children are addressed. Here, the ELaDiNa content that has been developed is to be tried out and the experiences documented.

Strategies and methods

The following suggestions illustrate basic principles of language education and support integrated into everyday life. They relate to teachers and educators. The action strategies and methods are intended to help grasp the opportunities offered by natural spaces to promote children's language development. Possibilities can become reality.

Language support and outdoor learning are not understood here as additional items in a busy daily routine that is limited in time and/or only takes place with certain children. Rather, language education in nature is lived as a universal principle and is seen as a cross-sectional task that is practiced by all participants in every situation that arises in everyday life.

With the goal of reflecting on one's own language behaviour and expanding language-promoting competencies, key language-stimulating strategies are explained below.

Adopt a fundamental language supportive attitude

In order to create a good conversational atmosphere that invites children to tell their stories and talk to each other, various communicative considerations i.e., body language and also mental factors i.e., consciously conducting a conversation in a language stimulating way play a decisive role. Below are important aspects that must be actively established by the dialogue partner in order to create a suitable positive atmosphere that can also stimulate a trusting relationship. This attitude expresses the willingness to accept the conversation and to turn fully towards the child. At the same time, it signals openness to all kinds of contributions to the conversation. Children feel safe and can dare something. Regardless of a child's current language level, this should encourage him or her to enter into dialogue and participate in a conversation.

- *Get down to the child's eye level.*
- *Maintain eye contact.*
- *Pay full attention to the child.*
- *Assume a facing posture.*
- *Use affirmative facial expressions.*
- *Listen, let the child speak.*
- *Ask questions with interest.*
- *Radiate the joy of communication.*

Follow the child's lead - establish joint attention

Children particularly enjoy a conversation when the common focus of attention is on an object or topic that has meaning for the child. In order to establish this situation, the dialogue partner has to step back with his or her own ideas and fully engage with the child's interests. In order to find out the child's topics, an observing but actively participating attitude is necessary at first. If the child's topics are then given time and space, the motivation to speak can be significantly increased. Premature hints by the conversation partner on certain topics and thus leading the conversation are less effective. Rather, the child experiences encouragement and reinforcement when his or her process of thinking and acting is followed, and he or she is clearly in charge of the conversation. Accordingly, this strategy is often the first step towards entering into a dialogue.

- *Observe, wait, listen ("owl-principle").*
- *Perceive and focus on the child's interests.*
- *Giving up one's own leadership and following the child.*

Parallel-talk and self-talk

Not only to acquire word meaning, but also to learn specific linguistic structures, the verbalization of actions is of great importance. Long before children actively speak their first words, they already develop an understanding of words, for example, by handling an object and repeatedly hearing a certain sound chain (the corresponding word), which they can then associate with the object. This process of associating what they hear with concrete objects or situations can only succeed if the dialogue partner links action and language congruently. Congruence means that what is said must relate exactly to the respective action, so that unambiguity is created. This strategy is particularly suitable for children who, due to their age, do not yet speak much actively or for children who are at the beginning of their second language acquisition and have so far communicated exclusively in their first language. If both one's own actions and those of the child are described by language, the child has the chance to learn new words and language structures of the target language.

- *Accompanying the child's actions with language.*
- *Speak about your own actions.*
- *Use this strategy especially when the child is attentive.*

Confirm, repeat and expand the child's utterances

The child receives important reinforcement when his or her utterance is first acknowledged, and this acknowledgement is put into words. A simple "Oh yes." or "Exactly." as a reaction from the conversation partner initially gives the child val-

uable recognition for his or her statement. If then the dialogue partner repeats what has been said in a meaningful way, this further underlines the fact that the child's topic is taken seriously. For the further course of the conversation, an impulse can be given by taking up the child's topic and adding further information or a new aspect. The right dose is important here, because too many additions might again lead the conversation too far away from the child's interest. The child could lose interest in the conversation because the dialogue partner becomes the leading person in the conversation.

- *First of all, find words to confirm the child's utterances and repeat what has been said in the sense of active listening.*
- *Add one more piece of information or expand with a limited / manageable number of new considerations.*
- *When making additional comments, pick up on the topic and interest of the child.*

Corrective feedback

Learning to speak is an active acquisition process in which children continuously refine and improve their linguistic competence by trying things out and receiving feedback for it. Independently, they extract e.g., linguistic rules from what they hear, and it happens that they apply a newly learned rule in contexts in which the learned rule does not fit. These so-called productive errors are not actually errors, but rather they show a child's level of competence and point to the next step of development. This is exactly where adult responses as corrective feedback comes in. Through corrected repetition of the child's utterance, the error is not explicitly pointed out, but the child is indirectly shown how the utterance would be correct. With this form of correction, one stays completely with the child's statement without taking away the child's joy of speaking by making him/her aware of an inadequacy. Due to the highly sensitive speech perception and processing in childhood, these indirect hints are sufficient but absolutely necessary in the normal process of language acquisition.

- *Repeat utterances with correct pronunciation and grammar.*
- *Repeat incomplete sentences completely.*
- *Use this strategy repeatedly but sensitively.*

Name unknown words frequently

Words and their meanings must be securely stored in the mental lexicon so that they can be recalled in any required situation. Secure memorisation is supported when dialogue partners allow intensive exploration with all the senses and accompany this process linguistically. Many repetitions are helpful for memorising

a new or unfamiliar word. Each word must be heard 60-80 times (and experienced in different contexts) until it can be actively used.

- *Repeat new, unknown words frequently and meaningfully in different contexts.*

Use appropriate and rich language

Adult language use can sometimes be very economical in everyday life - out of habit or for other reasons such as stress or challenging situations. The most necessary information is then conveyed with little effort and as briefly and succinctly as possible. This can be efficient and reasonable, but it is not appropriate for the professional context described here. Children who are in the middle of the language acquisition process need adults to act as role models using rich language by finding the most appropriate words and describing things in a differentiated and detailed way. Precise word choice and explicitness in formulations are just as important as detailed descriptions in grammatically complete sentences. Instead of "Make that in there!" is a formulation such as "Put the branch in the bird's nest." much more precise due to the detailed explanation a much better language model. This literal precision strategy is especially important for children on the autistic spectrum.

- *Use well-formulated, detailed language.*
- *Avoid abbreviated statements.*
- *Use maximum strategy of verbalisation instead of minimal strategy.*

Turn taking - pay attention to reciprocity in dialogue

Children do not learn language and speaking by just listening, but they need to be able to try things out, to use language actively on a frequent basis and to receive constant feedback. Only with sufficient practice, do they have the chance to expand their linguistic competencies further. Dialogue partners must therefore pay attention to a balanced or larger share for children's contribution to the conversation and offer them the necessary feedback in the dialogue that they need to expand their competences and will to speak. If a dialogue is kept going with all language-stimulating means, several changes of speaker become possible, which set diverse learning processes in motion.

- *Pay attention to reciprocity in dialogue.*
- *Create several changes of speaker.*
- *Pay attention to a balanced proportion of speech or increase the children's share of speech.*
- *If necessary, take more of a back seat.*

Focus on quiet children

Children who are very eager to speak receive frequent attention and correspondingly more linguistic support due to their high level of initiative in communication. They actively demand their practice opportunities. Quiet children may need the initiative of dialogue partners who offer themselves for a conversation so that they also can experience sufficient language learning opportunities.

- *Recognise which children are more or less sociable and communicative.*
- *Take initiative and actively seek contact with quiet children.*
- *Avoid imperatives*

The child's linguistic development requires a conversational partner who supports the child's activity in the process of language acquisition and accordingly promotes a high level of participation and independence of the child. In contrast instructions, i.e., especially imperatives such as "Go over there!" or "Leave it, we discussed this!" do not increase a child's autonomy or independent thinking and acting. They do not invite children to talk to each other and to negotiate things. If the child is often only instructed to do something or not to do something, this can have an inhibiting effect on language development.

- *Encourage children to think for themselves instead of issuing prohibitions.*
- *Allow the child to come up with his or her own ideas and to act independently.*
- *Discuss consequences with each other.*

Asking questions

Often it is mentioned as being conducive to language development, if one use asks open rather than closed questions. However, this strategy is not universally valid and must be considered in a more differentiated way. Every question requires an answer and thus places a demand on the child. Children with low language skills may not be able to meet these demands because they cannot formulate an adequate answer. They may feel incompetent and lose the courage and self-confidence to try out their language skills - and fall silent. In general, dialogue partners should reflect on how often and how many questions they ask in the course of a conversation. In contact with less linguistically competent children, strategies should be used that accompany the child linguistically rather than just questioning or interrogating him or her. In this case alternative questions are more helpful because they make it easier for the child to actively answer by saying two alternatives. Children who are eager to speak tend to benefit more from open-ended questions, as those questions can have a language-stimulating effect on these children.

- *Use questions in a measured way because they are not stimulating for all children.*
- *Ask fewer questions and better accompany children more linguistically.*
- *Ask open rather than closed questions.*
- *Use alternative questions for insecure children.*

Telling stories – stories by children and for children

As discussed earlier, natural spaces offer not only many occasions for speaking, but also many occasions for narration. Natural spaces can be full of stories - they should be told! From the perspective of child development, the age between four and ten years shows an enormous receptiveness to narrated stories. Often, children have also a great desire to tell their own stories, so that four-to-ten-years of age is also the true storytelling age of childhood.

- Children should be encouraged and supported when telling their own story, that is, when they talk about what they have experienced, e.g., their told adventure. Giving space and time is important here. Often, they have to get used to coherent storytelling first and need confirming adults. It is not only the past experience itself that constitutes the child's experience. The narrative organizes the past and enables the child to conceptualize himself and to reassure himself before others. Engel (1999) calls this development of a "sense of self" through telling one's own stories.
- Storytelling itself has a very interesting effect on the development of language. This is especially true for telling imaginative stories to the children, which, however, needs to be practiced. Thus, stories always offer new "language material": new terms or new grammatical constructs. When they are told, this stands out from the everyday language use of a dialogue, for example - but without being detached.
- Storytelling is on the one hand similar to a conversation because of its liveliness, on the other hand it exceeds everyday language by introducing new, unusual words and containing more complex sentence structures and sequences of actions. In this respect, it can form a bridge to non-ordinary language and to written language, because it can be additionally supported gesturally. Free storytelling thus requires much less on the part of the child's language ability than reading aloud. New language material and whole scenes of the plot can be made more understandable by gestures and gestures. By gesturing at characters, symbolizing objects, movements, or scenes of the story with hands, feet, and all kinds of body language, storytelling is brought closer to play. In general, this also accommodates children's imaginative activity, which is often very attached to objects that can be perceived by the senses, i.e., it needs

sensory anchors. With mimic and gestural support, the narrator reaches the children more strongly through sensory communication channels - mostly the sense of sight - and draws them more easily into the arc of suspense and the course of the story. Through such playful and acting narration, even those children can follow a longer text who, for example, lose the desire to listen quite quickly when read aloud.

- To stimulate children's telling of what they have experienced and of invented stories, a storybook can be created together with the children when back in the classroom or kindergarten. This also represents a bridge between orality and writing. The book can be used to collect stories from nature explorations or invented imaginary stories. Such a book can develop a momentum of its own not only when collecting stories, i.e., when constructing them. It also offers the children storytelling opportunities when they turn the pages, if it contains photos, painted pictures, or dried plants, for example, and the stories can be reconstructed for the children. It helps to bring the outdoor experiences and motivations back inside.
- In order to establish the theme of storytelling and the stories themselves in a striking way, fixed figures - such as a colourful hedgehog or 'Skarlett the squirrel' - can be established that carry or run through the stories (cf. Merkel 2010, 169). This can be more connective for the children and provide a series of links between the individual stories.
- For regular trips into nature, it is possible to turn the path into and through nature into a story, i.e., sections of the path, such as certain lanterns, trees, roots, clearings, or forks in the path can become settings for a coherent story that is walked through again and again. This idea also helps very imaginatively to order the space and to orient oneself in it.

References

- Andresen, H. (2004). Interaktion, Zeichen und Bedeutungsrepräsentationen bei Vorschulkindern. Aspekte der Beziehungen zwischen Mündlichkeit und Schriftlichkeit in einer entwicklungsorientierten Perspektive. *Zeitschrift für Kultur- und Bildungswissenschaften* 17, 57-71.
- Becker, P. (2016). From 'Erlebnis' to adventure. A view on the German Erlebnispädagogik. In B. Humberstone, H. Prince & K. Henderson, K. (Eds.): *International Handbook of Outdoor Studies* (pp. 20-29). Abingdon/New York: Routledge.
- Becker, P. (2011). *Into the woods. Some remarks on the cultural and biographical significance of woods and wilderness in youth work*. Paper for EOE-Conference in Metsäkartano, Finland 7-10. October 2011.
- Bernstein, B. (1964). Elaborated and Restricted Codes: Their Social Origins and Some Consequences. *American Anthropologist* 66, 6, 55-69.
- Bischof, N. (1985). *Das Rätsel Ödipus. Die biologischen Wurzeln des Urkonfliktes von Intimität und Autonomie*. München: Piper.
- Bormann, A. (1968). *Natura loquitur : Naturpoesie und emblematische Formel bei Joseph von Eichendorff*. Berlin: De Gruyter.
- Bruner, J. (2002). *Wie das Kind sprechen lernt*. Bern: Huber.
- Chawla, L. (2008). Spots of Time: Manifold Ways of Being in Nature in Childhood. In P.H. Kahn, S.R. Kellert (Eds.). *Children and Nature. Psychological, Sociological, and Evolutionary Investigations* (pp-199-226). Cambridge (Massachusetts)/London: MIT Press.
- Chomsky, N. (1957). *Syntactic Structures*. Boston: De Gruster Mouton.
- Clahsen, H. (1988). *Normale und gestörte Kindersprache. Linguistische Untersuchungen zum Erwerb von Syntax und Morphologie*, Amsterdam: John Benjamins Publishing Company.

- Clegg, J. & Ginsborg, J. (2006) (Eds.). *Language and social disadvantage. Theory into practice*. Chichester: John Wiley & Sons
- David, T., Goouch, K., Powell, S. & Abbott, L. (2003). *Birth to Three Matters. A Review of the Literature Compiled to Inform the Framework to Support Children in their Earliest Years*. Nottingham: DfES/Sure Start Publications (RR 444).
- Dudley-Marling, C. & Lucas, K. (2009). Pathologizing the Language and Culture of Poor Children. *Language Arts*, 362-370.
- Engel, S. (1999). *The stories children tell. Making sense of the narratives of childhood*, New York: Freeman and Company.
- Fischer, K. (2010). Die Bedeutung der Bewegung für Bildung und Entwicklung im (frühen) Kindesalter. In G.E. Schäfer, R. Staege & K. Meiners (Eds.). *Kinderwelten – Bildungswelten. Unterwegs zur Frühpädagogik* (pp. 117-131). Berlin: Cornelsen.
- Franzmann, A. (2013). Bildungsdynamik und Neugierde. Einige Überlegungen im Anschluss an Forschungen zur Professionalisierung von Wissenschaftlern. In P. Becker, J. Schirp & M. Vollmar (Eds.), *Abenteuer, Natur und frühe Bildung* (pp. 191-210). Opladen/Berlin/Toronto: Verlag Barbara Budrich.
- Garz, D. & Raven, U. (2015). *Theorie der Lebenspraxis. Einführung in das Werk Ulrich Oevermanns*, Wiesbaden: VS Springer.
- Gebhard, U. (2001). *Kind und Natur. Die Bedeutung der Natur für die psychische Entwicklung*, Wiesbaden: Westdeutscher Verlag.
- Gibson, J. (1979). *The Ecological Approach to Visual Perception*. New York/London: Psychology Press.
- Hirsh-Pasek, K. & Golinkoff, R.M. (2004). *Einstein never used flash cards. How our children really learn – and why they need to play more and memorize less*. Emmaus: Rodale.
- Hoff, E. (2003). The specificity of environmental influence: socioeconomic status affects early vocabulary development via maternal speech. *Child development*, 74(5), 1368-78.
- Huttenlocher, J., Waterfall, H., et.al. (2010). Sources of variability in children's language growth. *Cognitive Psychology*, 61(4), 343-65.
- Kahn, P.H. & Kellert, S.R. (2002). *Children and Nature. Psychological, sociological, and evolutionary investigations*. Cambridge (Massachusetts)/London: MIT Press.
- Kant, I. (2007; orig. 1781/87). *Critique of Pure Reason*. London: Penguin Classics.
- Karmiloff, K. & Karmiloff-Smith, A. (2001). *Pathways to language: From fetus to adolescent*. Harvard University Press.
- Kaplan, S. (1995). The restorative benefits of nature: Towards an integrative framework. *Journal of Environmental Psychology* 15, 169-182.
- Kauschke, C. (1999). Früher Wortschatzerwerb im Deutschen: Eine empirische Studie zum Entwicklungsverlauf und zur Komposition des kindlichen Lexikons. In S. Sachse (Ed.). *Handbuch Spracherwerb und Sprachentwicklungsstörungen. Kleinkindphase* (pp. 3-14), München: Urban & Fischer.
- Kirkby, M. (1989). Nature as a refuge in children's environments. *Children's Environments Quarterly*, 6 (1), 7-12.

- Law, J., Rush, R., Schoon, I. & Parsons, S. (2009). Modelling Developmental Language Difficulties from School Entry into Adulthood: literacy, mental health, and employment outcomes. *Journal of Speech, Language, & Hearing Research* 52 (6), 1401– 1416.
- Li, H., Browning, M., Rigolon, A., Larson, L. et.al. (2023). Beyond “bluespace” and “greenspace”: A narrative review of possible health benefits from exposure to other natural landscapes. *Science of The Total Environment*, 856, pt. 2.
- Merkel, J. (2010). *Weißt du was, sprechen macht Spaß. Sprachliche Bildung anregen und unterstützen*. Troisdorf: Bildungsverlag EINS.
- Neumann, K., Holler-Zittlau, I., Sick, U., Zaretsky, Y. (2009). *Das Kindersprachscreening (KiSS) – ein Verfahren zur Sprachstandserfassung vierjähriger Kinder*. Conference paper.
- Oevermann, U. (1972). *Sprache und soziale Herkunft. Ein Beitrag zur Analyse schichtenspezifischer Sozialisationsprozesse und ihrer Bedeutung für den Schulerfolg*. Frankfurt: Suhrkamp.
- Plessner, H. (2003). *Conditio humana. Gesammelte Schriften VIII*, Frankfurt: Suhrkamp.
- Popitz, H. (2000). *Wege der Kreativität*. Tübingen: Verlag Mohr Siebeck.
- Rothweiler, M. & Meibauer, J. (1999) (Eds.): *Das Lexikon im Spracherwerb*, Tübingen/Basel: A. Francke Verlag.
- Sachse, S. (2015) (Ed.). *Handbuch Sprachentwicklung und Sprachentwicklungsstörungen*. München: Urban & Fischer.
- Schäfer, G.E. (2012). *Sinnlichkeit und Sprache*, München: Deutsches Jugendinstitut.
- Schäfer, G.E. (2009). Frühe Wege ins Naturwissen. In G.E. Schäfer, M. Alemzadeh, H. Eden & D. Rosenfelder (Eds.). *Natur als Werkstatt* (pp. 81-99). Weimar/Berlin: Verlag das netz.
- Sebba, R. (1991). The landscapes of childhood. The reflection of childhood’s environment in adult memories and in children’s attitudes. *Environment and Behavior*, 23, no. 4, 395-422.
- Seel, M. (1996). *Eine Ästhetik der Natur*. Frankfurt: Suhrkamp.
- Simms, E.M. (2008). *The child in the world. Embodiment, time, and language in early childhood*, Detroit: Wayne State University Press.
- Tobler, G.C. (1869, orig. 1782). Nature: Aphorisms by Goethe. *Nature*, 19ff. (download 5.12.2021: <https://web.archive.org/web/20161130033604/http://www.nature.com/nature/first/aphorisms.html>)
- Taylor, C. (2017). *Das sprachbegabte Tier. Grundzüge des menschlichen Sprachvermögens*, Berlin: Suhrkamp.
- Tomasello, M. (2019). *Becoming Human. A Theory of Ontogeny*. Harvard University Press.
- Vollmar, M. (2020). Aesthetic processes in early childhood – Reconstruction of a forest path with two pre-school children. In: European Network of Outdoor Centers (ENOC) (Ed.). *Aesthetic approaches in Outdoor Learning – A Handbook for Youth and Outdoor Leaders*, pp.27-48. Marburg: BSJ. Available online at: <https://www.eoe-network.eu/wp-content/uploads/2020/07/Aesthetic-Approaches-in-Outdoor-Learning-ENOC-handbook.pdf>
- Waite, S., Rutter, O., Fowle, A. & Edwards-Jones, A. (2015). Diverse aims, challenges and opportunities for assessing outdoor learning: a critical examination of three cases from pra-

ctice, *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 45 (1), 51-67. <http://www.tandfonline.com/doi/pdf/10.1080/03004279.2015.1042987>

Weisleder, A. & Fernald, A. (2013). Talking to children matters: Early language experience strengthens processing and builds vocabulary. *Psychological Science* 24 (11), 2143–2152.

Zimmer, R. (2009). *Handbuch Sinneswahrnehmung. Grundlagen einer ganzheitlichen Bildung und Erziehung*. Freiburg: Herder.

Zollinger, B. (2010). *Die Entdeckung der Sprache. Entwicklungsprozesse, Störungen, Untersuchung, Beurteilung*. Bern/Stuttgart/Wien: Thieme.

