

"The Early Bird Gets the Worm"

Immersion Programs in Preschools and Primary Schools in Germany

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EU-Project ELIAS

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Structure

1. Bilingual Education and Immersion

Definition, Methodology

2. Bilingual Preschools

Setup, Research Results

3. Immersion teaching in Kiel elementary school

Setup, Research Results

4. The EU-Project ELIAS

Goals, Structure

5. The Bilingual Zoo-Preschool in Magdeburg

Setup, Conceptual Design



Bilingual Education

'Mother tongue plus two other languages': Making an Early Start

European Commission: Promoting Language Learning and Linguistic Diversity: An Action Plan 2004 – 2006, p. 7

*Language competencies are part of the core of skills that every citizen needs for training, employment, cultural exchange and personal fulfilment ... It is a priority for Member States to ensure that language learning in kindergarten and primary school is effective, for it is here that key attitudes towards other languages and cultures are formed, and the foundations for later language learning are laid, ... **in particular by teaching at least two foreign languages from a very early age.***



Background

Bilingual education / Immersion teaching (e.g. Wode 1995)

- most effective method of teaching foreign languages
 - content-based
- ⇒ integrating contents such as science & nature topics with foreign language teaching

Early start

⇒ **3+ formula** (Wode 2001)

1. bilingual / immersion preschools
2. bilingual / immersion primary schools
3. bilingual education in high schools



Bilingual Education

Immersion method (Genesee 1987, Wode 1995, Zydati 2000)

to be "immersed" in the second language (L2)

- the second language as medium of communication, not as focus of grammatical learning
- ⇒ **all content matter is taught in the second language**
- in bilingual preschools: all daily routines and activities
- in immersion schools: as classroom language
- ⇒ more than 50% of the school subjects are taught in L2



Bilingual Education

Immersion teaching (Lorenz & Met 1989)

Comprehensible input

"Understanding occurs when input ... is comprehensible, and input becomes comprehensible when it is supported by concrete experiences, visuals, realia, and nonverbal communication that assist in conveying meaning." (p. 37)

Contextualization of content

- ⇒ body language, gestures, facial expressions
- ⇒ pictures / visual aids, concrete materials, realia
- ⇒ repetitions, paraphrases, intonation, extensions ("caretaker speech / motherese")



Bilingual Education

Results of Canadian Immersion studies

(e.g. Wesche 2002)

- the content knowledge is not negatively affected
- the development of the first language does not suffer
- attainment in second language is much higher than in traditional foreign language teaching
- more positive socio-psychological attitudes
- suited both for strong and weak learners

⇒ **enhancement of language and general cognitive skills without negative effects for content knowledge and first language**



Bilingual Preschools

- *one person – one language* principle
(Döpke 1992)
⇒ native speakers of English as caregivers
- the children are enthusiastic and very proud of their L2 skills
- within a few weeks they understand the daily routines in the L2
- comprehension of the L2 precedes production
- same acquisition principles for lex. learning as L1
(Rohde 2005)
- lexical acquisition up to the same level as L2 learners in England (Rohde & Tiefenthal 2002)



Bilingual Preschools

Examples

Researcher: Show me the mouth!

Child: *Die Maus is nich da.*

[The mouse is not there.]

Researcher: Look at the ducks over there!

Child: *Das ist doch kein Dachs!*

[That's not a badger!]

Child: Eric is red, Paul is dead – and Tini is fat!



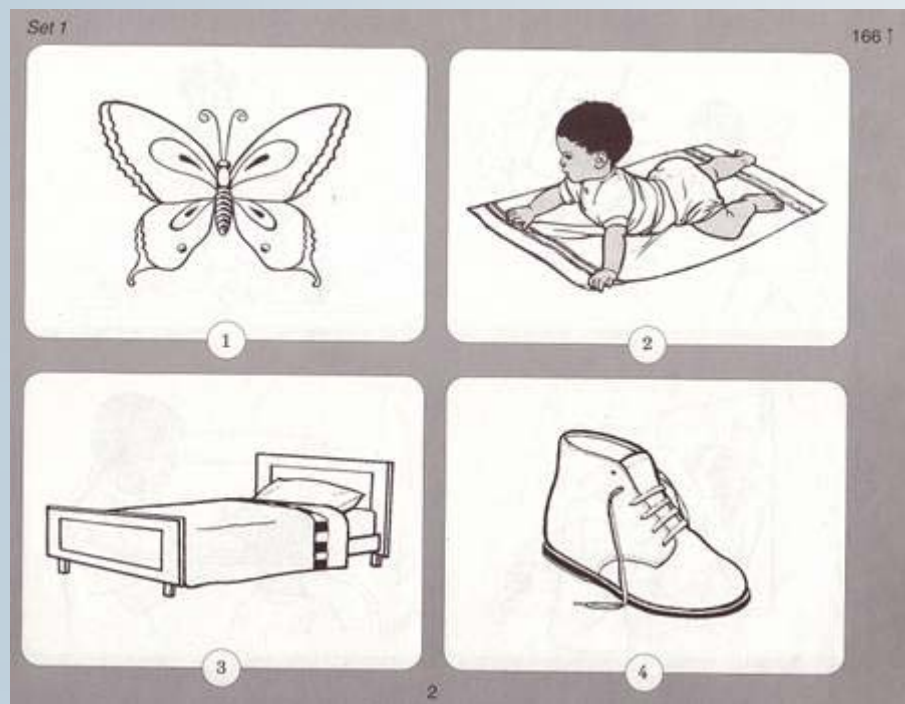


Bilingual Preschools: Tests

Lexicon (Weitz 2008)

British Picture Vocabulary Scale (BPVS)

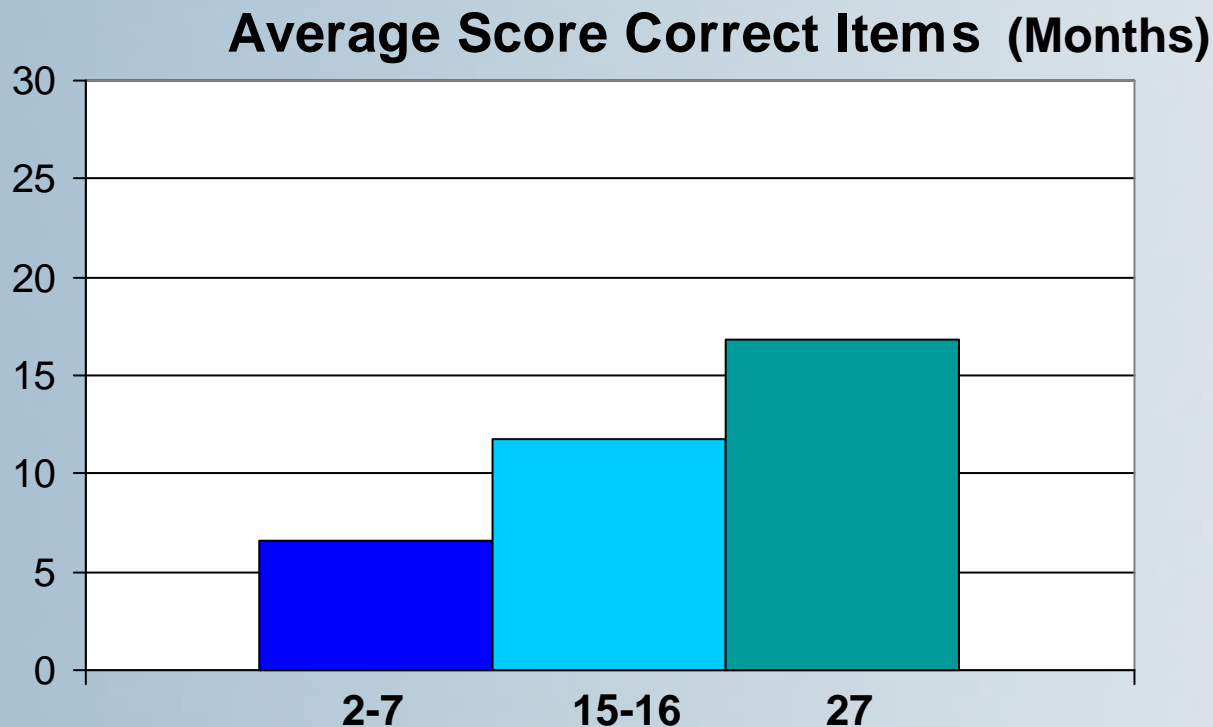
"Show me ... "





Bilingual Preschools: Results

Lexicon (Weitz 2008)



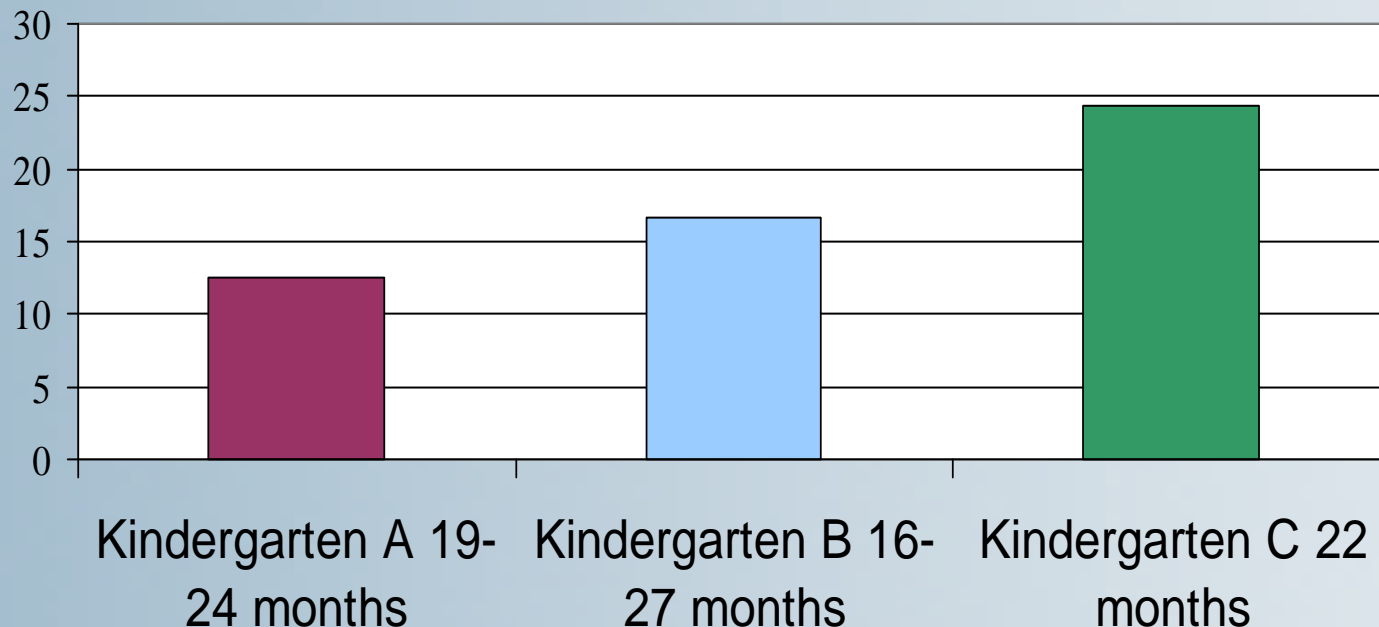
⇒ an increase of time of L2 exposure leads to an increase of lexical comprehension



Bilingual Preschools: Results

Lexicon

Average Score Correct Items



- ⇒ different factors in the three preschools: contact time / day and teaching method
- ⇒ pedagogical setup seems to have an influence on the results



Bilingual Preschools: Tests

Grammar

Online Picture Pointing Test (Steinlen 2008)

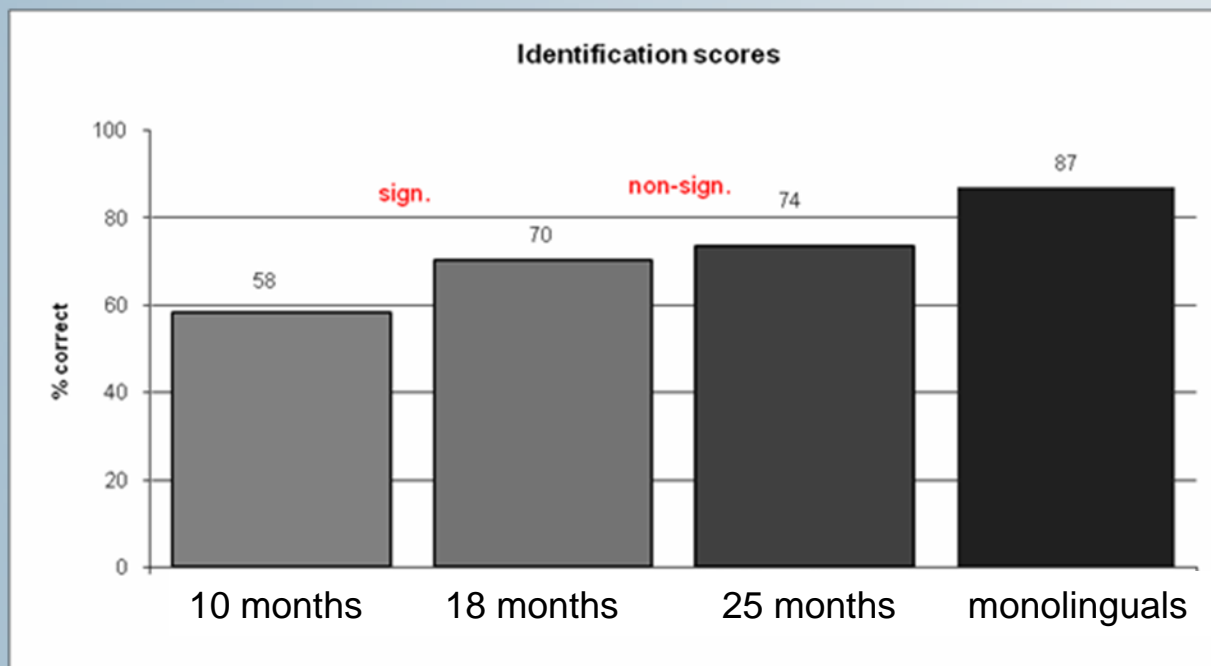
The man kisses the woman. The woman kisses the man.





Bilingual Preschools: Results

Grammar (Steinlen 2008)



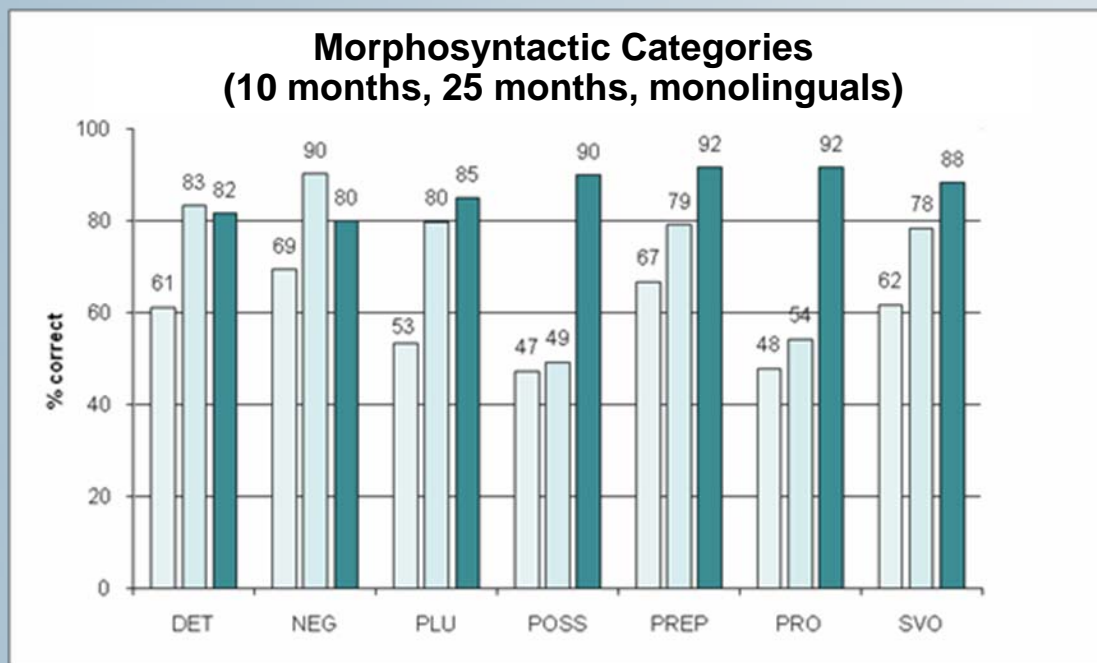
⇒ an increase of time of L2 exposure leads to a significant increase in identification of syntactic categories

⇒ monolingual comparison group does not reach full scores either



Bilingual Preschools: Results

Grammar (Steinlen 2008)



⇒ varying identification rates with different morphosyntactic categories

⇒ monolinguals do not exceed bilinguals in all categories



Bilingual Preschools: Results

- children acquire lexicon and morpho-syntactic structures receptively in bilingual preschools
- an increase of L2 contact time leads to an increase of receptive knowledge of the L2
- time and intensity of the L2 input as well as immersion teaching principles seem to be defining factors for the rate of language acquisition



Bilingual Preschools: Results

- ⇒ **bilingual preschools provide children with a strong basis of the L2 prior to the beginning of primary school**
- ⇒ **results need to be confirmed with a larger data corpus**
- ⇒ **factors influencing EFL in preschools need to be categorized and correlated with tests results**



Immersion in Primary Schools

The Kiel Immersion Project

- **English-German Preschool (1996)**
early partial IM (50%): L1- and L2-speaking educators
- **Claus-Rixen Grundschule, 1 Klasse/Jahrgang (1999)**
early partial IM (70%): all subjects except German
"explosionsartiger Entwicklungsschub für die Sprachproduktion"
(Wode 2004:8)
- **High School (Sek. I und II, 1991)**
late partial IM: bilingual education in 2 subjects after
intensive language training



Immersion in Primary Schools

Longitudinal Study

Data: oral L2 narratives elicited through picture story
("Frog, where are you?" by Mercer Mayer)

Subjects: 1st cohort from Kiel elementary school
grades 1-4 (age 6-10)
L1 German, L2 English
grades 1-2: n=18
grades 3-4: n=17

Exemplary analyses:

- development of verbal morphology grades 1-3 (Piske 2006)
- comparison IM L2 acquisition vs. naturalistic L2 acquisition (Kersten in press)



Immersion in Primary Schools



Transcript 1: Child 08.1B (Grade 1)

- 8 There *is* a dog and a boy, and the d/ dog *looking* in a glass, and in the glass *sitting* a frog, and the moon *shining*. And then the boy *are sleeping*, and the dog *sleeping*. And then the boy *looking* in the glass, and the frog *is/ is not* there.



Immersion in Primary Schools

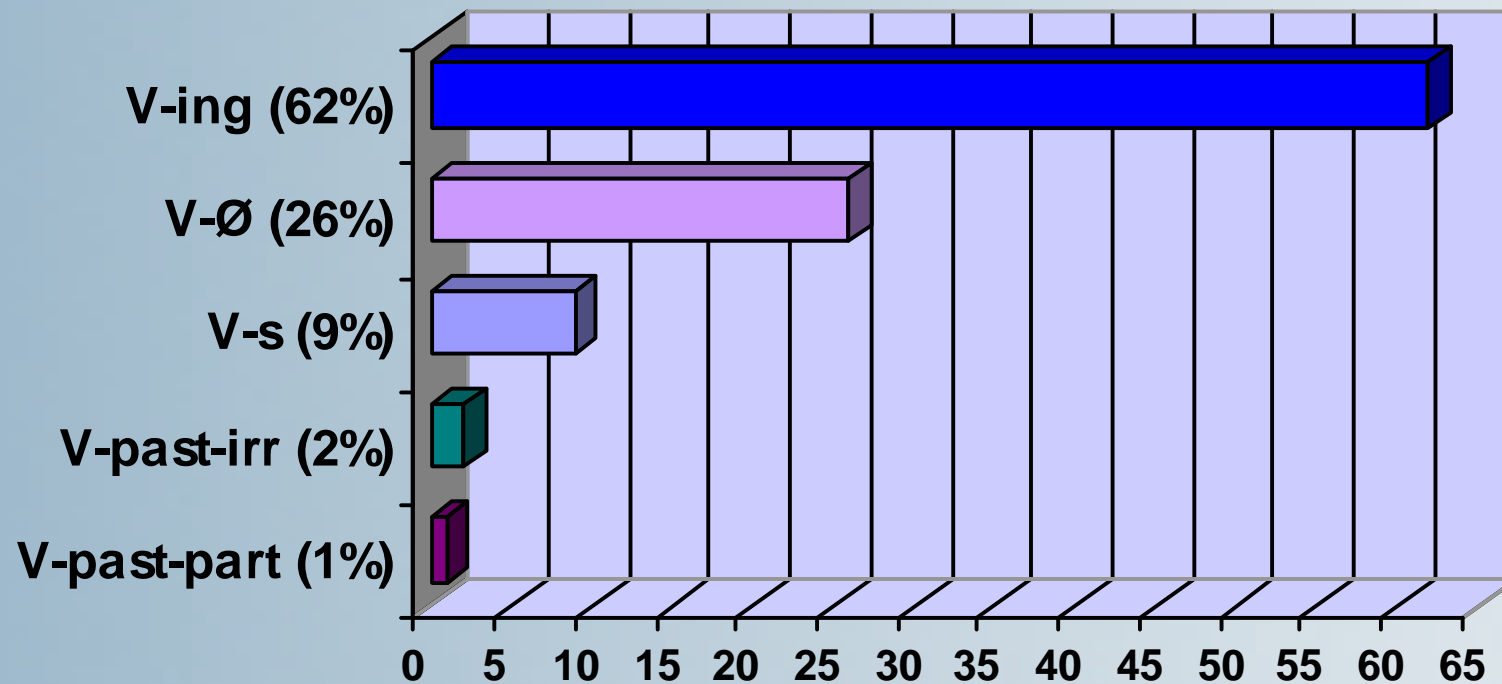


Diagramm 1: Prozentualer Anteil von *V-ing*, *V-Ø*, *V-s*, *V-past-irr* and *V-past-part* Token der Immersionsschüler am Ende der 1. Klasse (Gesamtanzahl der Verbformen = 224) (adapted from: Piske 2006)



Immersion in Primary Schools

Transcript 2: Child 08.2B (Grade 2)

8 There *was* a boy and he *has* a frog in a gr/ glass and he *look* at the frog, he *love* the frog and the dog *look* at the frog. And then the boy *goes* into bed and *sleep* and the frog *goes* out/ out of the glass and *go* in his home, and the dog *sleep* by the boy, and the f/ next morning the frog *is* away and the boy *look* at it/ at the glass, and the boy *is* awa/ and the frog *is* away. The dog *look* at the f/ *look* at the glass but the frog *is* not there.



Immersion in Primary Schools

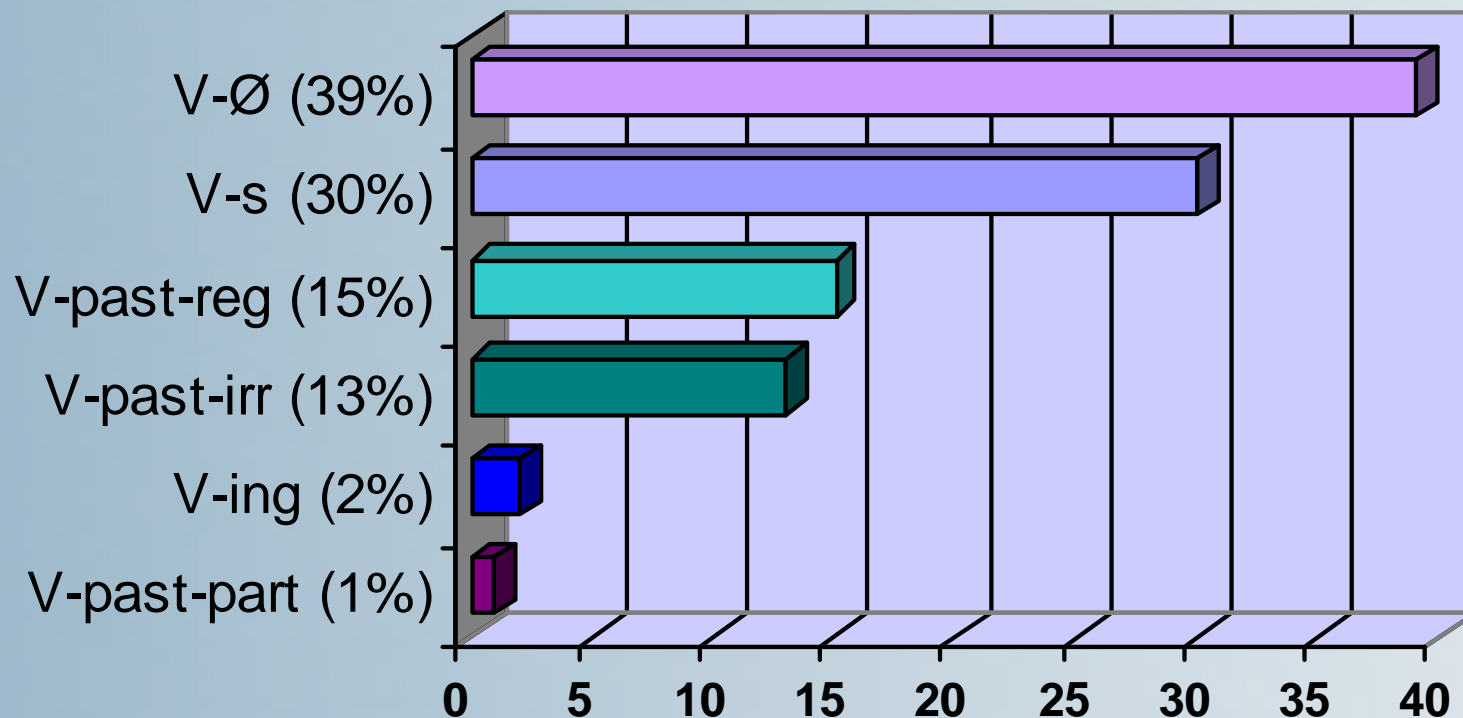


Diagramm 2: Prozentualer Anteil von *V-Ø*, *V-s*, *V-past-reg*, *V-past-irr*, *V-ing* and *V-past-part* Token der Immersionsschüler am Ende der 2. Klasse
(Gesamtanzahl der Verbformen = 407) (adapted from: Piske 2006)



Immersion in Primary Schools

Transcript 3: Child 08.3B (Grade 3)

Ehm one night a little boy ehm *has caught* a little frog and *put* him in a glass and ehm then he *took* the glass and *bring* it in his bedroom, and then he *looks* at the little frog, and the frog *thinks*, when the little boy *sleeps* I *go out* in the forest to my family. And ehm the light *is* on, and the little dog ehm *looks* in the glass exactly on the frog. And when the frog ehm *go out* of the glass in the night, the little dog and the little boy *are sleeping*, and ehm the moon *is shining* in the window, and ehm all *is standing around* and *is* dark. And when the day *comes* and the ehm sun *shines* on the glass and the little boy ehm *wakes up* and the dog a/ as well, ehm the glass *was* empty because the frog ehm in the night *go* ehm to his family again, in the forest.



Immersion in Primary Schools

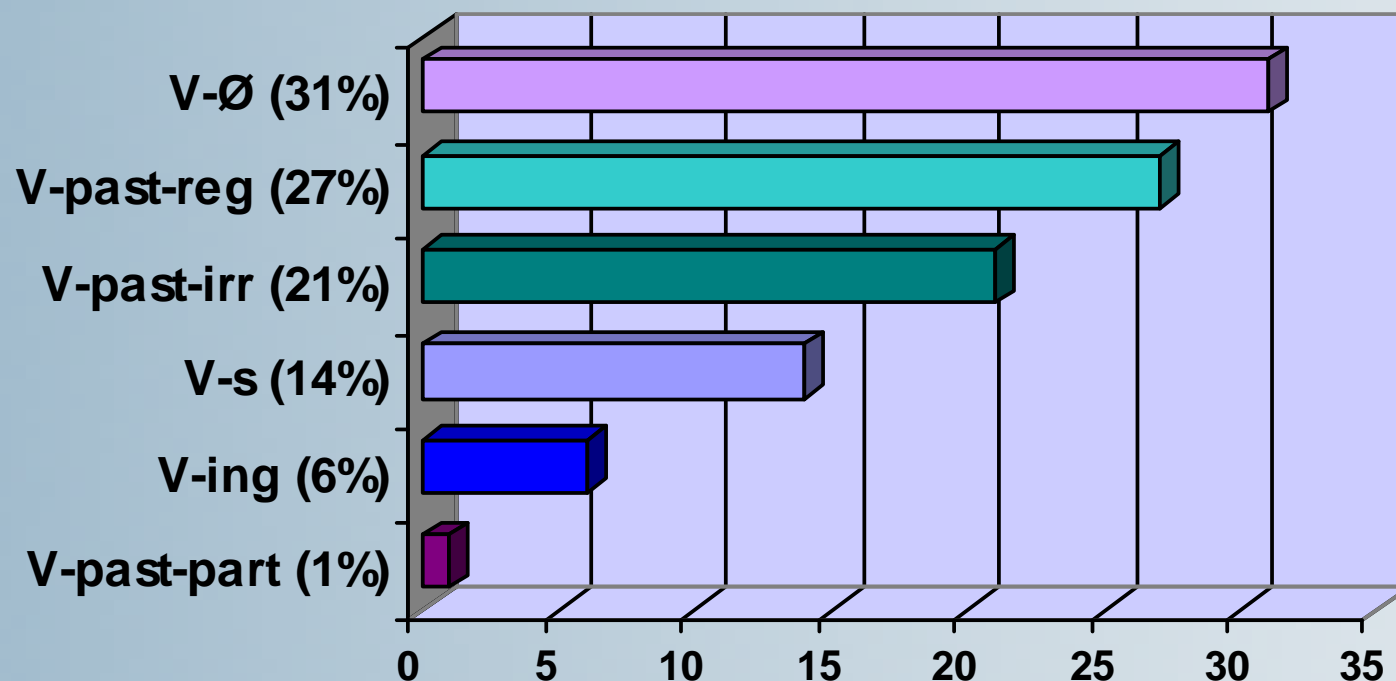


Diagramm 3: Prozentualer Anteil von *V-Ø*, *V-past-reg*, *V-past-irr*, *V-s*, *V-ing* and *V-past-part* Token der Immersionsschüler am Ende der 3. Klasse (Gesamtanzahl der Verbformen = 451) (adapted from: Piske 2006)

⇒ **non-target-like forms grade 1: 70%, grade 3: 20%**



Immersion in Primary Schools

Immersion L2 acquisition vs. naturalistic L2 acquisition

Developmental stages of ESL (e.g. Pienemann 1998):

Stage	Phenomena	Examples
6	Cancel Aux-2nd	I wonder what he wants .
5	Neg/Aux-2nd-? Aux-2nd -? 3sg-s -	Why didn't you tell me? Why can't she come? Why did she eat that? What will you do? Peter likes s bananas.
4	Copula S (x) Wh-copula S (x) V-Particle	Is she at home? Where is she? Turn it off !
3	Do-SV(O)-? Aux SV(O)-? Wh-SV(O)-? Adverb-First Poss (Pronoun) Object (Pronoun)	Do he live here? Can I go home? Where she went? What you want? Today he stay here. I show you my garden. This is your pencil. Mary called him .
2	S neg V(O) SVO SVO-Question -ed -ing Plural -s (Noun) Poss -s (Noun)	Me no live here. / I don't live here. Me live here. You live here? John play ed . Jane go ing . I like cat s . Pat' s cat is fat.
1	Words Formulae	Hello, Five Dock, Central How are you? Where is X? What's your name?

(<http://groups.uni-paderborn.de/rapidprofile/docs/Stages.pdf>)



Immersion in Primary Schools

Naturalistic L2-acquisition (age: 8-10)

(Length of Residence in months) (Pienemann & Mackey 1993)

(months)	6	7	8	8	8	9	11	11	11	22	22	44	60
stage	1:4	1:1	1:7	1:2	1:6	2:1	1:3	1:5	2:2	2:4	2:6	2:5	2:3
6		+											
5		+			+	+		+	+	+	+	+	+
4		+			+	+	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+	+	+	+	+	+	+
2	+	+	+	+	+	+	+	+	+	+	+	+	+
1	+	/	+	/	/	/	/	/	/	/	/	/	/

(taken from: Pienemann 1998:179)

⇒ most of the naturalistic L2 learners have reached stage 5 after 11 mo. of input, only one reaches stage 6 in 60 mo.



Immersion in Primary Schools

Immersion L2-acquisition (age: 6-10) (Time of Input in months) (Kersten in press)

(m)	10	10	10	10	22	22	22	22	34	34	34	34	46	46	46	46
stge	3.1	7.1	8.1	6.1	3.2	7.2	6.2	8.2	3.3	6.3	7.3	8.3	3.4	7.4	8.4	6.4
6								(+)			(+)	+		(+)	+	+
5				(+)	+	+	+	+	+	+	+	+	+	+	+	+
4				(+)	(+)	+	+	(+)	(+)	+	+	+	(+)	+	+	+
3	(+)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
2	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
1	/	+	/	/	/	/	/	/	/	/	/	/	/	/	/	/

⇒ most of the immersion L2 learners have reached stage 5 after 22 mo. of input, and stage 6 after 46 mo.



Immersion in Primary Schools

Summary of Results

- non-target-like use of verbal morphology decreases drastically over time
- *predominant* use of verbal morphology:
V-ing \Rightarrow V- \emptyset \Rightarrow V-s \Rightarrow V-past
- immersion children are able to reach stage 6 of Pienemann's (1998) developmental stages of English L2A
- this attainment is comparable to naturalistic English L2A (Kersten in press)
- stage 5 is reached earlier by the naturalistic acquirers
- after 4 years of input more IM children have reached the final stage than the naturalistic learners



Immersion in Primary Schools

Summary of Results

- immersion children reach a significantly higher level of L2 production than children from other teaching programs (Fremdsprachenunterricht Schweden / "Begegnungskonzept" Germany) (Keßler 2004 & 2006)
 - L1 reading skills are identical to monolingual peers
 - content knowledge is identical to monolingual peers (Burmeister & Pasternak 2004)
- ⇒ **Immersion is a very efficient program of language teaching which yields results comparable to those of naturalistic L2 learners**



The EU-Project

ELIAS (Early Language & Intercultural Acquisition Studies)

Project Goals

- Monitoring of bilingual preschools
- Enhancement of **second language learning, intercultural competence**, and **bilingual environmental education** for preschoolers
- scientific documentation
- evaluation of conceptual designs
- recommendations and dissemination



The EU-Project

Network

- 16 partners from 4 European Countries (Germany, Belgium, England, Sweden)
- Cooperation partners from Italy and the Netherlands
- 9 Universities
- Zoological Garden Magdeburg
- 7 bilingual preschools with English as second language, e.g. the Zoo-Preschool in Magdeburg

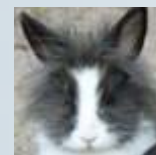
Coordination

Prof. Dr. Holger Kersten, Kristin Kersten
(Magdeburg University)





The EU-Project



Research



1. Bilingual Preschools

2. Cultural Studies

3. Linguistics

4. Speech Therapy

5. Science Education

6. Zoological Garden

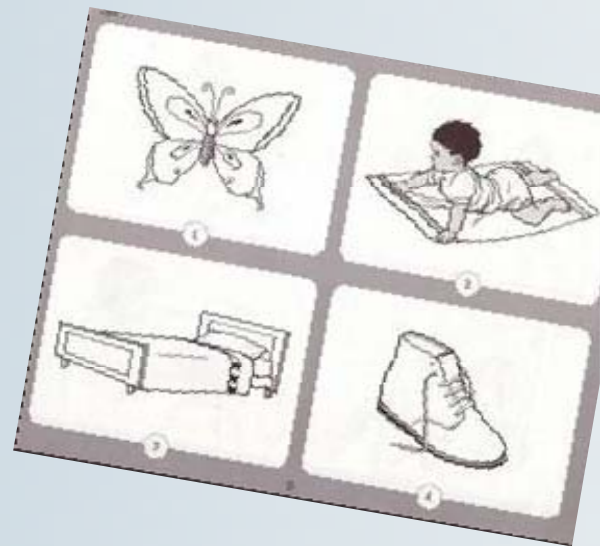




The EU-Project

Participant Observation (Spradley 1980)

- qualitative research methods
- observers take part in daily preschool routines
 - ⇒ integrated in the preschool system
- avoiding "test situations"
 - ⇒ emotional stability for the children
- field notes and questionnaires
- language assessment





Bilingual Zoo-Education

"Zoos and aquariums enable people to develop appreciation, wonder, respect, understanding, care and concern about nature."

WAZA 2005: *Building a Future for Wildlife* – The World Zoo and Aquarium Conservation Strategy (WZACS); Chapter 5: Education and Training



Bilingual Zoo-Education





Bilingual Zoo-Education



Education and Training

- education as a central role for all zoos and aquariums
- develop strategic plan for education and environmental sustainability (a "*green*" *ethos*), incorporating conservation issues
- collaboration with a variety of educational institutions, universities and teacher training institutes to link educational programmes to curricula developments
- lifelong learning: students from pre-school to university
- evidence to evaluate impact and effectiveness of education programs





"Green Immersion"

Combining the factors

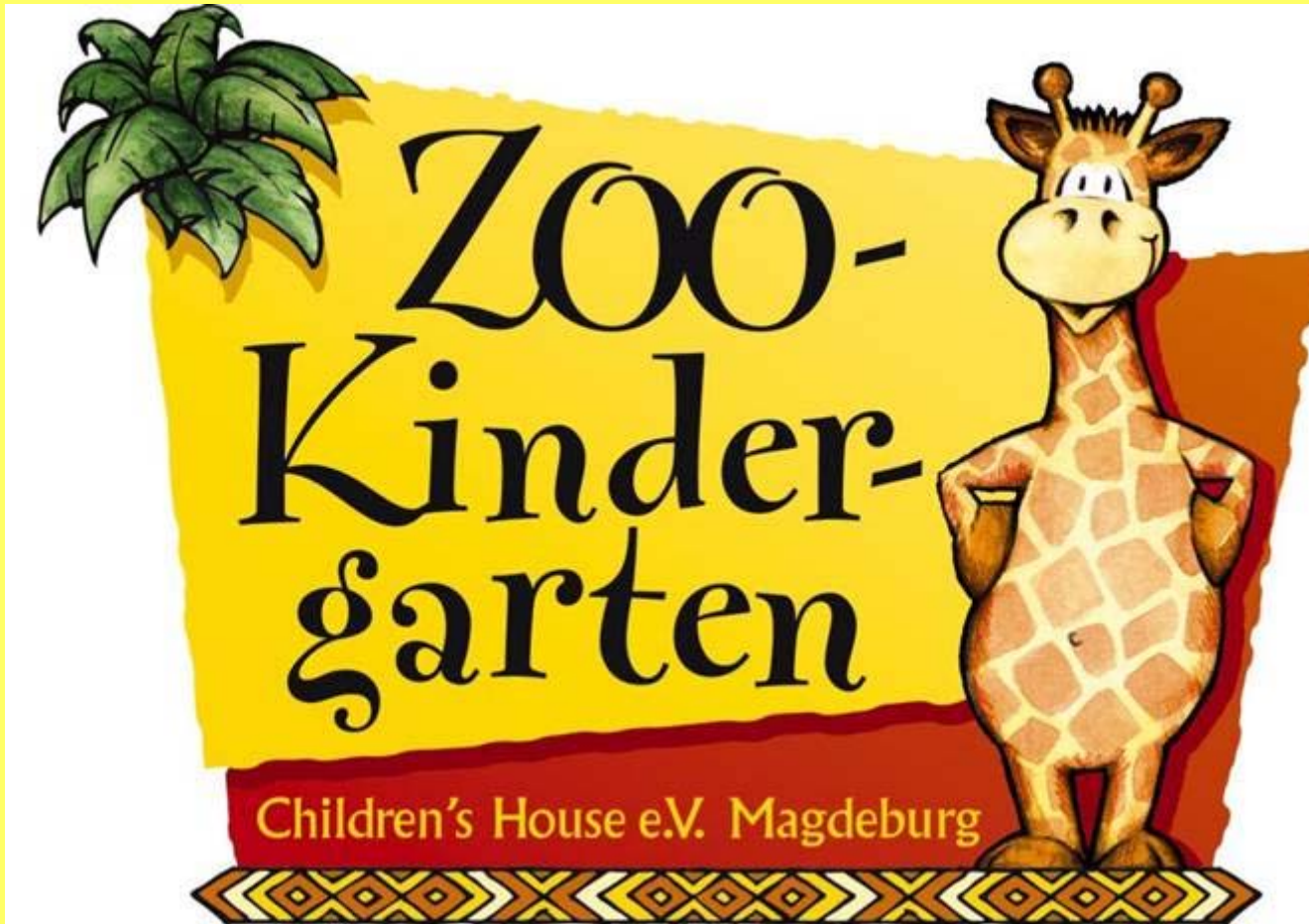
"Green Immersion":

⇒ *immersion language education based on nature-related ("green") topics*

- zoo education
- environmental education
- conservation



Zoo-Preschool Magdeburg



**"The early bird
gets the
worm!"**

www.childrenshouse.de



Zoo-Preschool Magdeburg

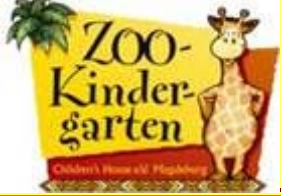
Zoo-Preschool *Children's House*

- located on the grounds of Magdeburg Zoological Garden
 - two bilingual groups, age 3-6
 - German & English-speaking educators (USA, Malaysia)
- ⇒ trained teacher & zoo educator from the USA

Zoo Education

- ⇒ trained biologist and immersion teacher from Canada





Conceptual Design



A visit to a zoo is an experience that touches a child's heart and mind. Children of preschool and primary-school age are mainly interested in objects and events that stimulate immediate affective and sensory responses. In addition to their fascination with an animal's visual appearance, its size, and its behavior, children tremendously enjoy direct interaction with the creatures from the animal world. ...



Conceptual Design



... Touching them, feeding them, listening to their distinctive sounds, and taking in their characteristic smells – these are all experiences that leave a profound impact on a child's mind. They learn what it means to respect, to care for, and to be responsible for other living beings, and they begin to understand that there is a close connection between their actions and the consequences they lead to. (Isensee 2007)



Conceptual Design

Project work & Conceptual Design

- daily learning sessions on zoo-related themes & nature topics for the preschool children in preschool and zoo
- teaching materials for bilingual sessions
- online version of the teaching materials for website and CD ROM
- conceptual design for the cooperation between preschools and non-academic institutions such as zoological gardens, aquariums etc.
- research study (participant observation) on children's progress in environmental learning



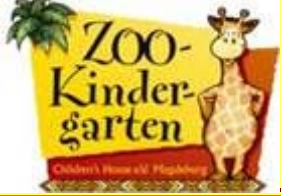
Conceptual Design

Enthusiastic as they are, children want to share these powerful experiences by telling stories of them to parents, relatives and peers, and thus practice



and develop their cognitive and communicative skills.

(Isensee 2007)



Conceptual Design

Green immersion competencies

A. General competencies

- respect for oneself, for other beings, and for nature
- positive self-identification
- social and emotional competence
- creativity
- communicative competence in two languages
- motor skills



Conceptual Design

Green immersion competencies

B. Specific competencies

- environmental awareness
- science skills
- second language skills
- intercultural awareness



Implications

- a close cooperation between educational institutions and zoological gardens, aquariums, etc. valuable for implementation of *green immersion*
 - close local proximity facilitates contact and exchange between both institutions
 - quality management in collaboration with researchers from different disciplines
- ⇒ ***Green immersion* represents a viable and promising way to meet the requests of both EU language and environmental education policies**





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*Thank you for
your
attention!*

Kindergarten

Children's House e.V. Magdeburg

www.elias.bilikita.org



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The ELIAS project has been funded with support from the European Commission.

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