

Novel noun and verb learning in mono- and multilingual children

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This study investigates how mono- and multilingual German-learning first-graders learn nouns and verbs in a child-friendly computer game, testing perception and production of the new words. On the basis of previous research reporting cognitive advantages for multilingual children in cognitively complex situations, we expected multilingual children to outperform monolinguals when learning cognitively complex verbs, but not nouns. In the perception task, we indeed reveal a significant advantage for verbs in multilingual children. There were, however, no differences in production tasks. Thus, although overall word-learning skills are very similar in typically developing mono- and multilingual children, verb learning may be an area of relative strength for multilinguals.

1. Introduction

1.1 *A multilingual¹ language-learning advantage in childhood?*

Over the last decades, research into multilingual language development has intensified, and a differentiated picture of multilingual children's skills and weaknesses is beginning to emerge. Although they often lag behind their monolingual peers when their knowledge of one language is measured (e.g., Bialystok, Luk, Peets & Yang 2010), they also show general cognitive advantages (see meta-analysis by Adesope, Lavin, Thompson & Ungerleider 2010). In particular, multilingual individuals are more successful than monolinguals when learning additional languages, even in brief lab-based artificial language learning studies (see review by Bartolotti & Marian 2012). This advantage is probably caused by enhanced cognitive control through frequent language switching (Bialystok, Craig & Luk 2012). Most artificial language studies involve adults, but a handful of studies, which will be detailed in the following paragraphs, suggest that this multilingual language-learning advantage may be present from very early on. For instance, bilingual twelve-month-olds are able to learn two novel linguistic regularities in quick succession, while their monolingual peers learn only one (Kovacs & Mehler 2009).

Research on word learning (for a review of studies on the second year of life and onward see Byers-Heinlein 2018) reveals that multilingual children do not always use the same acquisition strategies as monolinguals. For instance, they do not rely on the "mutual exclusivity" constraint (new word = unknown object) as heavily as monolinguals (Byers-Heinlein & Werker 2009). Nevertheless, when tested adequately, bilingual toddlers can learn two minimally different

¹ Throughout this paper, we will use the term 'bilingual' for individuals speaking two languages regularly, and 'multilingual' for individuals speaking two or more languages regularly.

nonsense words (e.g., /bos/ vs. /gos/) as well as monolinguals (Mattock, Polka, Rvachew & Krehm 2010). One study even shows a bilingual advantage at 18 months for new words differing in one short vowel only (e.g., /mɪn/ vs. /mən/, Singh, Fu, Tay & Golinkoff 2018). Finally, Yoshida, Tran, Benitez and Kuwabara (2011) show that three-year-old bilingual children outperform monolinguals when learning made-up adjectives (e.g., 'wuggish duck'), a performance which correlates with their inhibition skills.

Note that in all of these studies, multilingual children only seem to show an advantage in difficult learning situations requiring advanced cognitive control. Yoshida et al. (2011) speculate that the multilingual learning advantage for adjectives would not apply to nouns (e.g., 'wug'), because the latter do not require switching attention from salient objects (= nouns) to less salient object properties (= adjectives). Nouns should thus be easy to learn for monolinguals and multilinguals alike. However, the authors did not include a noun comparison condition in their study. As Byers-Heinlein (2018) notes in her review: "Although many studies have investigated bilingual children's noun learning, many fewer studies have investigated other parts of speech." (p.183). To our knowledge, no study (not even with older children) has explicitly compared the acquisition of different word classes in mono- and multilingual children, in order to test for a possible multilingual advantage for word classes other than nouns.

1.2 *Aims of the present study*

Thus, we set out to test explicitly whether a multilingual learning advantage exists for different word classes. We test children's comprehension and production of conceptually easy novel nouns, referring to objects, and more difficult novel verbs, referring to actions, in a true artificial language paradigm. We hypothesise that a multilingual advantage will be observable in the more difficult conditions (i.e., for verbs rather than for nouns, and for production rather than for perception).

In order for children to have the necessary metalinguistic capacities, attention, and memory to master our tasks, we decided to test six- to seven-year-old first graders, like most artificial language learning studies that require explicit responses (Culbertson & Schuler 2019). Contrary to Yoshida and colleagues (2011), who based their novel words and sentence frames on a familiar language (English), we choose a novel word-learning design, with isolated non-words pronounced with unfamiliar phonetics, in order to avoid disadvantages for less proficient multilinguals, due to possible comprehension difficulties that may have arisen if we had embedded the non-words in German sentences.

2. Methods

2.1 Participants

Thirty typically developing German-speaking first-graders with no history of any developmental disorder participated. Their main caregivers signed an informed consent form and filled in a questionnaire (see Appendix 1) about the languages and dialects spoken in the family, their children's development and language skills, and their own education levels (using a five-point-scale from primary school only to university education). The study was approved by the local education authority (Regierungspräsidium Freiburg, Baden-Württemberg, Germany).

Eighteen children were monolingual (ten girls, eight boys; age range: 6;6 years – 7;9 years, mean age: 7;0 years): According to parental reports they had "almost never (< 10% of their time)" been exposed to other languages than German, and did not know more than a few isolated words in another language. Twelve children were multilingual (ten bilinguals, two trilinguals; six girls, six boys; age range: 6;8 years – 7;11 years, mean age: 7;3 years): they were exposed to other languages "at least sometimes (> 10% of their time)"; and they were able to produce more than a few isolated words in those languages.²

Ten additional children participated, but their data was not analysed due to a history or a suspicion of language, speech, hearing, voice or other developmental disorders (n=9), or because their other language was English³ (n=1).

2.2 Materials and Procedure

2.2.1 Overview of the tasks

The children participated individually in an "alien language game" in a quiet room in their school, lasting about 10-15 minutes, in which they learned new nouns and verbs in an artificial language as detailed below. This task was followed by a standardized non-verbal IQ screen (subtest "Matrices" of the WRIT battery; Glutting, Adams & Sheslow 2000).⁴

2.2.2. Stimuli

² The children's other languages were French (n=2), Russian (n=2), Albanian (n=1), Croatian (n=2), Polish (n=1), Turkish (n=1), Albanian and French (n=1), Hungarian and French (n=1).

³ As will be described in detail below, our stimuli were non-words pronounced by an English voice, thus the exclusion of the English-learning child.

⁴ In a second testing session later during the day, children carried out non-word and sentence repetition tasks that will not be described here.

We created four C(C)VC sequences containing only the cardinal vowels [a,i,u] for the novel noun task ([plum], [viʃ], [map], [glik]), and four C(C)V sequences with the same vowels for the novel verb task ([ti], [zu], [fla], [bli]). None of these have any meaning in German. For the perception task, subtle mispronunciations were derived from those words by deleting a consonant in a cluster (nouns: [pum] instead of [plum], [gik] instead of [glik]; verbs: [bi] instead of [bli], [fa] instead of [fla]); and two phonologically unrelated distractors were created (nouns: [num], verbs: [va]). In order to give these pseudo-words an unfamiliar alien-language flair, they were synthesized with a British English accent.⁵ Furthermore, we designed four distinct and colorful fantasy animal characters using the demo version of the gaming software Spore (Electronic Arts 2008, see examples in Figure 1).⁶

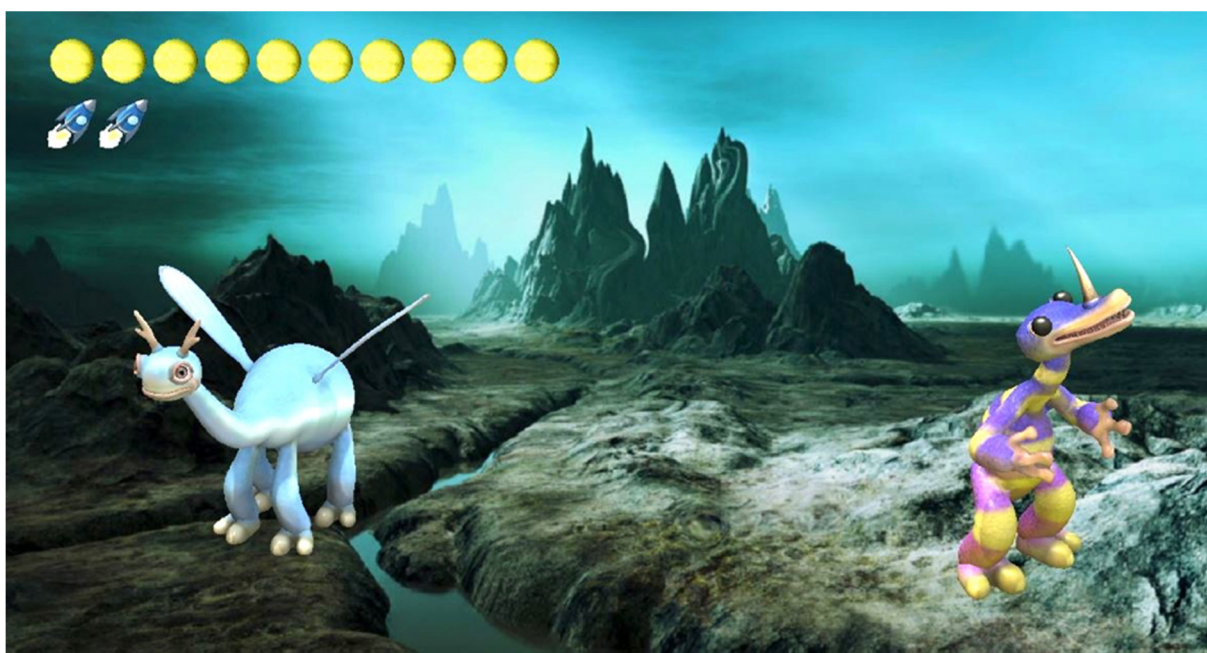


Figure 1. Sample screenshot of the novel noun-learning game.

⁵ The stimuli were generated using the in-built Mac OS X Yosemite, 10.10.5 female voice „Kate” (tempo: slow-normal). Furthermore, we prepared a second, child-like version of all stimuli using the "Change gender" option in the software Praat (version 6.0, Boerma & Weenink 2015), with a new median pitch of 300Hz and a formant shift of 1.2. Finally, detailed oral instructions explaining the game and the tasks were synthesized using the in-built male German speaker "Yannick" (tempo: slow-normal-normal). All auditory stimuli were presented as wav files (44.1kHz, stereo).

⁶ For the noun tasks, we created still jpg images (size: 500x500 pixels) of these creatures. For the verb tasks, we created four five-second movies (size: 480x540 pixels) of one of these animals performing different actions (e.g., spinning in the air, making bubbles with its mouth). All videos were presented as mpeg1 files (29.97 frames per second, 5000kbit).

2.2.3 Experimental procedure

The experiment was run in a quiet room on a touch screen tablet on a table in front of the seated child, who wore headphones throughout the study.⁷

After a short introduction to the 'alien' characters with which the child would learn new words, and a familiarization with the testing procedure on the tablet⁸, the children started the novel word-learning procedure with a noun block (see Figure 2). Figure 1 shows a sample screenshot of this 'noun game'.

Phase	Stimuli	Task	Trials
1. Passive exposure	1 animal + 1 word <i>e.g., blue animal with wings + [plum]</i>	listening	4
2. Training	2 animals + 1 word <i>e.g., blue animal (left), yellow-pink animal (right) + [plum]</i>	tap on the correct animal	24
3. Production (free recall)	none	recall all animals	1
4. Production (picture naming)	1 animal <i>e.g., blue animal with wings</i>	label the animal	4
5. Perception (error detection)	1 animal + 1 word <i>e.g., blue animal with wings + [pum]</i>	decide if label is correct	12

Figure 2. Novel noun-learning block.

⁷ The experiment was run on a Windows Surface 3 10.8" tablet PC (with Windows 10, 64 bit), using the software Python (version 2.6.6., Python Software Foundation 2010) with the modules Pygame (version 1.9.1., PyGame developers 2010) and NumPy (version 1.5.1., NumPy developers 2010). All auditory materials were presented at a fixed level for all children via Sennheiser HD 202 headphones. The child's oral responses were recorded using a Zoom H2n audio recorder. The experimenter (the author) sat next to the child and controlled her advancement in the game via a USB number pad.

⁸ Before testing, the experimenter introduced herself and two alien soft toy characters (merchandise of *Planet 51*, 2009) to all participating first grade classes in each school. She explained that some children would be asked to play a game with her, in which they would visit the aliens' planet and learn their language. At the beginning of each testing session, children were re-introduced to the extraterrestrial characters, using still images and small video clips from the movie (*Planet 51*, 2009), combined with NASA space noises (NASA, 2011). They also learned how to carry out the basic actions (listening through headphones, talking into the microphone, selecting an item on the touchscreen) needed for the experiment. These actions were symbolized by small icons at the right side of the screen, which turned red when the child had to do the corresponding action.

During the initial *passive exposure phase*, the children saw each of the four alien animals once and heard their nonsense names, one after the other in random order. During the subsequent *training phase*, they saw two animals side by side, heard a nonsense name (e.g., [plum]) and were told to pick the correct animal. The children received corrective feedback, that is, the correct animal blinked and they heard its nonsense name again, which they were now asked to repeat. Each of the four animals was presented six times in random order on a randomly chosen side, with one of the three other animals chosen at random on the other side.

The subsequent *test phase* was divided into three parts. First, the children were asked to freely recall all the nonsense names they remembered (*Production – free recall*).⁹ Then, they were presented with the four animals one by one and were asked to name them (*Production – picture naming*). Finally, they were told to decide whether a little alien, who sometimes makes mistakes, named the animals that appeared on the screen one by one correctly (*Perception – error detection*)¹⁰. This last part started with two training items with corrective feedback (one correct pronunciation and one incorrect, phonologically unrelated nonsense word, e.g., [num] instead of [map]), which were repeated until the child answered correctly. Six experimental items without feedback followed in random order: three correct associations, two slight mispronunciations ([gik] instead of [glik] and [pum] instead of [plum], as described in the stimuli section, p. 6), and one label confusion (e.g., [plum] for the creature labelled as [map] during training).

After a facultative short break, the children then continued with the verb learning block (see Figure 3). The procedure was identical to that of the noun learning task, except for the fact that the children were presented with action videos rather than still images, and that, for software constraints, the distractors and the target sides during the training phase were pre-compiled and pseudo-randomized, rather than completely random.

⁹ In order to maintain motivation, children received video game-like rewards for every response they gave throughout the procedure, regardless of its accuracy, e.g., small planets, stars, and rockets appearing at the top of the screen (for an example, see Figure 1). At the end of the whole study, the children received a small certificate or stickers.

¹⁰ This slightly more demanding metalinguistic task was chosen over a mutual exclusivity task with novel names because of the mutual exclusivity disadvantage in multilingual children (Byers-Heinlein & Werker 2009).

Phase	Presentation	Task	Trials
1. Passive exposure	1 action + 1 word <i>e.g., animal spinning + [zu]</i>	listening	4
2. Training	2 actions + 1 word <i>e.g., animal spinning (left) and animal dancing (right) + [zu]</i>	tap on the correct action	24
3. Production (free recall)	none	recall all actions	1
4. Production (picture naming)	1 action <i>e.g., animal spinning</i>	label the action	4
5. Perception (error detection)	1 action + 1 word <i>e.g., animal spinning + [va]</i>	decide if label is correct	12

Figure 3. Novel verb learning block.

2.2.4 Data transcription and coding

The author transcribed the children's productions and coded them as correct or incorrect (disregarding voicing errors and diphthongizations, which may be due to phonetic difficulties amongst the different language groups). She is a native speaker of German and was blinded to the target answer and the language status of the children.

3. Results

3.1 Demographic information and screening results

The ages of the mono- and multilingual children did not differ significantly in a two-tailed t-test ($t(28) < 1$, $p = .375$); neither did their main caregiver's education level in a non-parametric, two-tailed Wilcoxon test ($W = 140$, $p = .1445$). Furthermore, all children performed within the age-appropriate range for the non-verbal IQ screening, and the results in this task did not differ between the two language groups ($t(8.76) < 1$, $p = .543$).

3.2 Novel word learning results

Figure 4 shows the medians and Figure 5 shows combined violin and box plots of the proportion of correct answers for all four phases and tasks, by word class and language group. For each task, we ran logistic regression analyses using

the statistics software R (version 3.5.1., The R Foundation for Statistical Computing, 2018; function 'glm'), with the factors language group (monolingual vs. multilingual) and word class (nouns vs. verbs).

Phase	Nouns		Verbs	
	monolinguals	multilinguals	monolinguals	multilinguals
Training	0.875	0.729	0.75	0.708
Perception	0.667	0.583	0.667	0.833
Recall	0.25	0.25	0.25	0.25
Naming	0.25	0.00	0.25	0.25

Figure 4. Medians of the proportion of correct responses for all phases and all children.

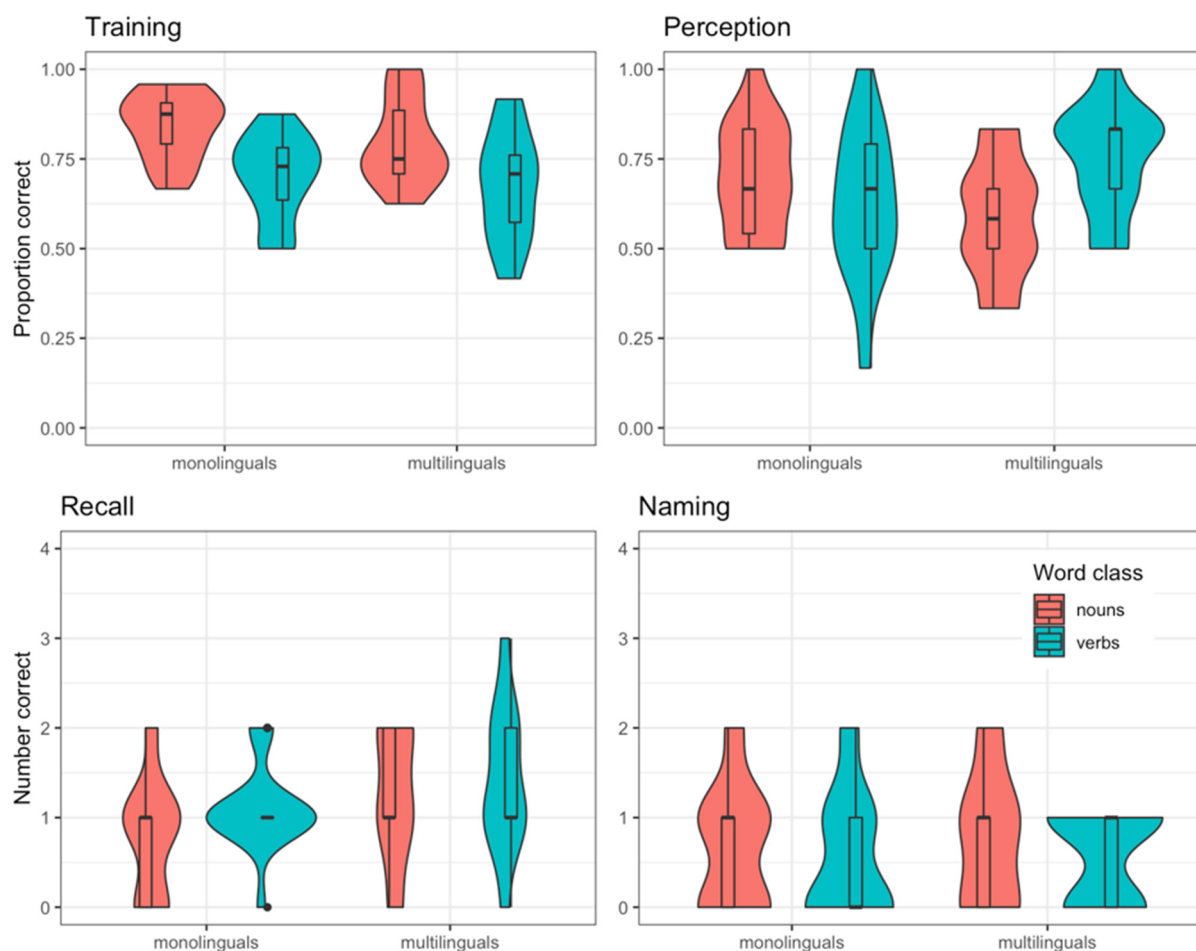


Figure 5. Violin boxplots of the results for all phases and all children.

For the training phase (Figure 5, top left), we found a main effect of word class, with lower overall accuracy for verbs than for nouns ($z=4.86$, $p<.001$). There was no effect of language group ($z=1.43$, $p=.15$), and no interaction ($z<1$). For

the perception task (Figure 5, top right), we did not find any main effects, neither for language group ($z=1.53$, $p=.127$), nor for word class ($z=1.145$, $p=.252$), but identified a significant interaction between the two factors ($z=2.36$, $p=.018$). Post-hoc Wilcoxon tests revealed that multilinguals performed better on verbs than on nouns ($W=34$, $p=.024$), whereas there was no difference for the monolinguals ($W=195.5$, $p=.554$). Furthermore, monolinguals performed marginally better than multilinguals for nouns ($W=146$, $p=.098$), whereas multilinguals performed marginally better than monolinguals for verbs ($W=149$, $p=.075$).

Scores in the two production tasks (Figure 5, bottom) were low overall, and we did not find any significant or marginal main effects or interactions (*free recall*: language group: $z=1.47$, $p=.142$; word class: $z=1.17$, $p=.241$ interaction: $z<1$; *picture naming*: all $z<1$).

4. Discussion

Our study investigated mono- and multilingual children's learning of novel nouns and verbs in an artificial language. Demographic information and screening results confirm that the two groups of children can be considered typically developing and well matched. Analyses of the training phase confirmed our hypothesis that verbs were overall harder to learn than nouns.

Our perception results revealed a significant interaction between language status and word class, with multilingual learners showing a significant advantage for verb learning, in contrast to monolingual learners, who show no difference between nouns and verbs. Recall that such an advantage was expected; however, the condition in which the discrepancy was found may seem surprising: The monolingual children would have been expected to show an advantage in the noun condition, and the multilingual children equal performance in both, rather than the multilingual children an advantage on the cognitively more complex verbs. This may be due to the fact that both groups performed the noun-learning task before the verb-learning task, and were thus already slightly 'trained' during the latter. We also found a marginal advantage for monolingual learners for nouns as well as multilingual learners for verbs. We found no significant effects in production tasks, although visual inspection of the graphs may suggest a tendency for multilingual children to perform better for verbs.

These results are consistent with our hypothesis of a multilingual verb-learning advantage, but contrary to our predictions, it was found for the easier perception rather than the more difficult production task. We speculate that this may be due to the considerable overall difficulty of our productive word-learning task, which yielded floor effects that are not unusual in the novel word production literature (e.g., Gray 2003), despite our extensive production training (recall that children had to repeat the new labels at each presentation during training). We

hypothesize that a multilingual verb-learning advantage may also be found in easier versions of production tasks - for example with an additional training phase focusing exclusively on production, or with specific semantic or phonological cues designed to help the children in recovering the novel word forms during the test phase.

To our knowledge, this study is the first one to document a possible multilingual verb advantage, but only in relatively small sample of German-learning first-graders. Before drawing definite conclusions, the study should be replicated with a larger sample of children, possibly with different language backgrounds and in different age ranges.

However, the overall pattern of our results fits nicely with the growing evidence that mono- and multilingual children use similar, but not identical strategies to learn novel words, which is probably linked to their different profiles of strengths and weaknesses in cognitive control (Bialystok et al. 2012). Our study also highlights the necessity to use words from different classes, rather than nouns only, when comparing mono- and multilingual children's lexical skills. To our knowledge, this has not been done before our study, despite the abundance of literature on mono- and multilingual children's vocabulary skills (see, for instance, the recent review by Byers-Heinlein 2018). Differential learning curves for different word classes should be studied in more detail, not only in novel word learning, but also during early lexical acquisition. Based on the results of our own study and of Yoshida and colleagues (2011) one may wonder if the typical 'noun bias', which has been found in the early vocabularies of monolingual children in many (but not all investigated) languages (e.g., Bornstein, Cote, Maital, Painter, Park, Pascual, Pêcheux, Ruel, Venuti & Vyt 2004), could be less pronounced in multilingual children learning those languages.

Finally, our results are also of clinical interest, and could be incorporated into dynamic assessment procedures used to measure multilingual children's language-learning skills (e.g., Peña, Gillam, Malek, Ruiz-Felter, Resendiz, Fiestas & Sabel 2006). Interestingly, children with language disorders have specific difficulties with verbs (Conti-Ramsden & Jones 1997), and with verb learning (Skipp, Windfuhr & Conti-Ramsden 2002). To our knowledge, this verb disadvantage has not yet been investigated in multilingual clinical populations, and, with some modifications and simplifications, our novel verb-learning game may become a useful clinical tool to detect verb-learning difficulties in multilingual children.

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Appendix

Appendix 1: Parental questionnaire and consent form (original in German)

Liebe Eltern,

wir freuen uns über Ihr Interesse an unserer Studie. Wenn Sie und Ihr Kind teilnehmen möchten, nehmen Sie sich bitte ein wenig Zeit und füllen Sie den folgenden Fragebogen zu Ihrer Familie, Ihrem Sprachgebrauch und zur Entwicklung Ihres Kindes aus¹¹.

Sollten Sie den Fragebogen lieber in einer anderen Sprache (Englisch, Französisch) oder als Telefoninterview bearbeiten wollen, melden Sie sich bitte bei uns. Vielen Dank!

Vorname des Kindes:

Geburtsdatum:

Geburtsort und -land:

A. ENTWICKLUNG

1. In welchem Alter hat Ihr Kind begonnen,

a) **erste Wörter zu sprechen?** _____ Jahre _____ Monate

b) **zwei Wörter aneinanderzureihen** (z.B. *da Auto, Mama Schuh*) ? _____ Jahre _____ Monate

2. Haben Sie sich je **Sorgen um die Sprachentwicklung** Ihres Kindes gemacht, als es noch sehr klein war (0 bis 3 Jahre)? Ja ☐ Nein ☐

3. Wurden bei Ihrem Kind je **Auffälligkeiten** in den folgenden Bereichen festgestellt?

Sprache (z.B. Sprachentwicklungsstörung, Dysphasie, Dysgrammatismus, Dyslalie, Lispeln) Ja ☐ Nein ☐

Gehör (z.B. Schwerhörigkeit, häufige Mittelohrentzündung) Ja ☐ Nein ☐

sonstige Entwicklung (z.B. Aufmerksamkeitsdefizit, Autismus) Ja ☐ Nein ☐

Wenn ja: Welche, und in welchem Alter?

4. Erhält/erhielt Ihr Kind je **Sprachförderung** oder **-therapie?** Ja ☐ Nein ☐

Wenn ja: *Wo?* in der Schule/ Kindergarten ☐ in der Logopädie ☐

Wenn ja: Wie lange und wie häufig?

5. Sind bei **Verwandten Ihres Kindes** (z.B. Eltern, Großeltern, Geschwister, Onkel/Tanten) **Probleme mit der Sprache** (z.B. beim Verstehen, Sprechen, Lesen) aufgetreten?

Ja ☐ Nein ☐

Wenn ja: Welche, und bei wem?

¹¹ Wir haben uns bemüht, alle Fragen so neutral und umfassend wie möglich zu formulieren, um möglichst vielen Lebensumständen gerecht zu werden. Sollte eine Frage dennoch auf Ihre Situation nicht passen, nutzen Sie bitte das Feld 9 auf Seite 2 für Bemerkungen. Sollten Sie bei einigen Fragen keine genauen Angaben machen können (z.B. Altersangaben), schätzen Sie bitte so gut wie möglich. Sie können uns bei Fragen und Unklarheiten auch gerne kontaktieren. Bitte geben Sie Ihre Adresse, Telefonnummer und Email an, damit auch wir uns bei Rückfragen an Sie wenden können und Ihnen am Ende des Projekts einen Ergebnisbericht zusenden können.

B. SPRACHEN UND FAMILIE

6. Hört oder hörte Ihr Kind außer Deutsch (Hochdeutsch/Standard) **regelmäßig andere Sprachen** (z.B. *Französisch, Türkisch*) oder **Dialekte** (z.B. *Badisch, Baseldeutsch*)?

Ja ☐ Nein ☐ Wenn ja: Füllen Sie bitte auch Seite 3, Abschnitt D zum Sprachgebrauch aus.

7. Welche **Erwachsenen** leben in Ihrem **Haushalt**, welche **Sprachen/ Dialekte** sprechen sie, und welche **Ausbildungen** haben sie?

Bitte ankreuzen (auch ausländische Schulen und Ausbildungen zählen):

A = 4-6 Jahre Schule (Grundschule)

D = Ausbildung/ Lehre

B = 8-10 Jahre Schule (Hauptschule/ Realschule)

E = Universität/ Fachhochschule

C = 12-13 Jahre Schule (Gymnasium/ Fachgymnasium)

	Bezug zum Kind (z.B. Vater, Stiefmutter, Großvater, Au Pair)	Muttersprache/n, Heimatdialekt	Ausbildung
Erwach- sener 1			A B C D E
Erwach- sener 2			A B C D E
andere			A B C D E A B C D E

Wer verbringt die meiste Zeit mit dem Kind?

8. **Wie viele weitere Kinder** leben in Ihrem Haushalt, und **wie alt** sind sie?

Sprachen/ Dialekte Kinder miteinander:

9. **Bemerkungen** (gegebenenfalls bitte die Nummer der Frage angeben):

C. EINVERSTÄNDNISERKLÄRUNG

Hiermit erkläre ich mich damit einverstanden, dass mein Kind an der Studie „Sprachlernspiele für ein- und mehrsprachige Kinder“ teilnimmt. Ich habe das Elternmerkblatt zu dieser Studie zur Kenntnis genommen und erlaube hiermit, dass seine Daten anonymisiert zu Forschungszwecken weiterverwendet werden.

Ihr **Name:**

Datum:

Unterschrift:

Adresse:

Telefon:

Email:

D. SPRACHGEBRAUCH

Falls Ihr Kind mit mehreren Sprachen/ Dialekten aufwächst, möchten wir Sie nun bitten, genauer auszuführen, wann, wo und wie Ihr Kind seine Sprachen und Dialekte verwendet.

10. Ab welchem Alter kam Ihr Kind **regelmäßig mit diesen Sprachen/ Dialekten in Kontakt?**

Sprache 1:	Hochdeutsch	____ Jahre ____ Monate
Sprache 2/ Dialekt:		____ Jahre ____ Monate
Andere:		____ Jahre ____ Monate
		____ Jahre ____ Monate

11. **Wie oft benutzt Ihr Kind seine verschiedenen Sprachen/ Dialekte zur Zeit?**

Zu Hause/ in der Freizeit	fast immer (90-100%)	oft (65-90%)	etwa Hälfte (35-65%)	manchmal (10-35%)	fast nie (0-10%)
Hochdeutsch	☐	☐	☐	☐	☐
Sprache 2/ Dialekt	☐	☐	☐	☐	☐
andere	☐	☐	☐	☐	☐

In der Schule	fast immer (90-100%)	oft (65-90%)	etwa Hälfte (35-65%)	manchmal (10-35%)	fast nie (0-10%)
Hochdeutsch	☐	☐	☐	☐	☐
Sprache 2/ Dialekt	☐	☐	☐	☐	☐
andere	☐	☐	☐	☐	☐

12. **Mit wem** (z.B. Eltern, Geschwister, Verwandte, Freunde) benutzt Ihr Kind seine verschiedenen Sprachen/ Dialekte regelmäßig?

Hochdeutsch:

Sprache 2/ Dialekt:

Andere:

13. Wenn Sie Ihr Kind mit anderen, einsprachigen Kindern der jeweiligen Sprachen oder Dialekte vergleichen sollten, **wie würden Sie seine jetzigen Sprachfähigkeiten einschätzen?**

Verstehen	besser	genauso gut	ein wenig schlechter	deutlich schlechter	nur wenige Wörter
Hochdeutsch	☐	☐	☐	☐	☐
Sprache 2/ Dialekt	☐	☐	☐	☐	☐
andere	☐	☐	☐	☐	☐

Sprechen	besser	genauso gut	ein wenig schlechter	deutlich schlechter	nur wenige Wörter
Hochdeutsch	☐	☐	☐	☐	☐
Sprache 2/ Dialekt	☐	☐	☐	☐	☐
andere	☐	☐	☐	☐	☐