

## **CHILD COMPREHENSION OF ADULTS' VERBAL INPUT: A CASE OF BILINGUAL ACQUISITION IN INFANCY**

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First received: 28 November 2016

Final proof received: 28 May 2017

### **Abstract**

Research concerning comprehension in early simultaneous bilingualism is still very limited. Thus, this study focuses on describing a bilingual infant's comprehension of adults' verbal input addressed to the child in an Indonesian-German language environment, and the child's understanding of translation equivalents (TEs). The child, who was exposed to Indonesian and German simultaneously from birth, was observed from age 0;9 to age 1;3 using a diary supplemented with weekly video recordings. A "one parent-one language" system was applied in which the child received Indonesian language from the mother and German language from the father from birth. Since the family live in Indonesia and have regular contact to the collective family members, the child received dominant exposure in Indonesian compared to German. The data was transcribed and analysed using ELAN. The results show that the adults' verbal inputs in the form of speech addressed to the child were in the form of short utterances which very often had a high-pitched sound and were rich in repetition. The adults' speech was able to be discriminated by the child. In the pre-production stage, the child could understand approximately 6 (six) proper nouns, 18 (eighteen) Indonesian words and 14 (fourteen) German words. The result reveals that the child could comprehend more words in Indonesian than in German. It was also found that the child could understand some bilingual synonyms, which implies that at the pre-production stage, the child already went through a process of bilingual development.

**Keywords:** bilingual child; comprehension; TEs; input

Adults' verbal input plays a significant role in bilingual acquisition. Several studies have been conducted towards revealing the relation of input to language production (Nicoladis, 2001; Paradis & Navarro, 2003; Blom, 2010). However, there is little interest in seeing how bilingual children comprehend language input that they receive from their environment.

Comprehension is a language aspect developed by infants before they are able to produce their first words and it is the very first stage in language acquisition. Dardjowidjojo (2000), in a study of Indonesian language acquisition, reported that the child in his study (Echa) understood her name at age 0;7. Dardjowidjojo also described how the child started to understand an instruction to open her mouth [ha?] while having meals and reacted to the word "no". Benedict (1979) reported that child early comprehension started at around 0;9 while production began to develop around age 1;0, corroborating that comprehension precedes production for lexical development. Benedict (1979) also claimed that children showed fast comprehension development, with an average of 50 words understood before they could speak 10 words.

Nicoladis (1998) mentioned that there is limited evidence in terms of comprehension in early simultaneous bilingualism. Steinberg, Nagata and Aline (2001) remarked that despite the significant role speech comprehension plays in language acquisition, relatively little research has been conducted in this area. Furthermore, DeHouwer, Bornstein and DeCoster (2006) pointed out that research in developmental bilingualism generally tends to focus on language production. They further argued that being able to understand the process through which bilingual children learn to comprehend more than one language will provide a better understanding of bilingual language acquisition.

As noticed by Nakamura (2010), one reason for the lack of studies in the area is the difficulty in measuring comprehension. Steinberg, Nagata and Aline (2001) noted that while the development of speech production (the child's utterances) is something that can be directly observed, the product of comprehension and meaning, on the other hand, cannot. They further mentioned that comprehension can only be interpreted on the basis of relevant behaviour. In investigating comprehension, researchers have to depend upon indirect methods,

such as asking children to engage in an action in response to a request or when they are able to answer questions.

In a series of experiments, Bosch and Sebastian-Galles (2001) confirmed that simultaneous bilingual children have the capacities to discriminate two different languages from the pre-linguistic stage. In a study of 28 Spanish-Catalan infants, they found that language acquisition in simultaneous bilingual children begins in perception before the children can produce the first word. Bosch and Sebastian-Galles' (2001) study was exceptional because they found out that children develop early perceptual differentiation even when they are exposed to two rhythmically close languages. The ability to discriminate two native languages in bilingual infants in the pre-linguistic stage was also confirmed by Bijeljic-Babic, Höhle and Nazzi (2016).

A study conducted by DeHouwer, Bornstein and DeCoster (2006) proved that bilingual children could comprehend translation equivalents (TEs), which are words from both languages conveying the same meaning. The subjects of the study were 31 bilingual infants at age 13 months who were exposed to French and Dutch. The study showed that all of the subjects understood TEs, even though the number of words they understood was variable from one child to another. De Houwer, Bornstein, and DeCoster. also noted that the more words the children understood, the more meaning of the two languages that they would know. Another study on bilingual comprehension was conducted by De Houwer, Bornstein and Putnick (2014), and confirmed that at the pre-linguistic stage, bilinguals understand more words than do monolinguals. They also found that exposing children to two languages from birth did not slow down lexical development.

The relationship between language input, comprehension and production was investigated by Quay (2001). Quay investigated the development of comprehension and language production in a trilingual child named Freddy. He received input in English and German from birth and input in Japanese when he started daycare at age 11 months. He received dominant exposure in English compared to German. The data from Quay's study reveals that in terms of comprehension, Freddy understood more English words than German words. At age 1;3 when he could already comprehend 40 English words, there was still no indication found that he could comprehend any German words. The result of Quay's investigation implies that the early development of comprehension in bilingual children is positively connected to the amount of exposure in each language.

Quay's finding was corroborated by Nakamura (2010). Nakamura examined the comprehension of a bilingual infant named Issa who was raised in English and Japanese from birth. The study

followed the child between the ages of 0;9 and 1;4. It revealed that the uneven development of comprehension between English and Japanese was positively linked to language input. Another important finding shown by Nakamura's study was that the child had an understanding of bilingual synonyms months before he could produce his first words and his first TEs. Nakamura also concluded that Issa's ability to understand TEs at the pre-linguistic stage indicated that the child had already experienced a process required for bilingual development and the capacity for dual lexical acquisition. To confirm Nakamura's finding, more studies need to be conducted in order to prove that a process necessary for bilingual development is already happening at the pre-linguistic period.

In this study, we look at the significant role language input plays in bilingual acquisition and how the child comprehends the two different languages. This study aims to examine adults' verbal input to an Indonesian-German bilingual child at ages 0;9 to 1;3 and how the child comprehends the verbal input, and the child's understanding of TEs. This is a study of child bilingualism with a language pair which has not been studied by other researchers. Input in this paper is focused on the speech of adults. How adults speak to infants or young children has been mentioned to have characteristics which include shorter utterances and more stress on certain words or syllables, substantial repetition, use of paraphrases, heavy reliance on questions, and marked intonation contrast (Finegan, 2004; Hummel, 2014). In terms of comprehension, Nakamura's definition is used whereby a word is considered as comprehended by the child when an affirmative act of understanding is performed (e.g. looking in the right direction, pointing and reaching for an object).

## **METHOD**

The subject of this study was Alyssa, the first author's second daughter. She was born in Indonesia to an Indonesian mother and a German father. The family live in Indonesia. Alyssa was exposed to Indonesian from birth by her mother (an English teacher at a local college) and German from her father, who was a self-employed man working in the home. Alyssa has an elder sister, Michelle, five years older than her, who speaks fluently both in Indonesian and German. Therefore, Alyssa also heard Indonesian and German from the sister. When the family was together, both Indonesian and German were used. When the father spoke to the two children, German was the primarily spoken language. Conversely, the mother only used Indonesian when talking to the children. The father understands and speaks fluent Indonesian, while the mother understands and speaks colloquial German.

Code switching among the family occurred occasionally.

Since Alyssa's mother had a full-time job outside the home, working eight hours a day, an Indonesian woman (Kadek) helped take care of the child when the mother had to work. The rest of the time, Alyssa was taken care of by the mother and the father. In speaking with the family Kadek used mainly Indonesian. Alyssa also interacted with her Indonesian grandmother and other relatives who spoke to her using Indonesian and who visited the family occasionally. Also her German grandmother interacted with her via Skype occasionally. Thus, input in Indonesian and German was regular and consistent. However, in terms of the number of people speaking, Indonesian was the dominant language when compared to German.

Data collection began when the child was between ages 0;9 and 1;3. The data was collected through observation using a daily diary supplemented with video recordings. The analyses were based on naturalistic data taken from the diary and video recordings. The recordings were taken weekly. The data was analysed using ELAN (EUDICO Linguistic Annotator), which is an annotation tool that enables video and audio data to be created, edited and visualized. The data was transcribed by two students at the Faculty of Languages and Arts of the Universitas Pendidikan

Ganesha. In order to check the trustworthiness of the students' transcription, a proportion of the transcribed data was compared with the authors' data transcription. The checked data showed 100% agreement.

## FINDINGS AND DISCUSSION

Alyssa's development in comprehension is summarized in Figure 1. The result shows that at the beginning when the child was age 0;9 to 1;10, the comprehension developed rather slowly. However, the comprehension developed gradually in both Indonesian and German when the child reached age 0;11. When the child reached her first birthday, she could understand five words in Indonesian and three words in German. At the end of the study when the child was at age 1;3, she could comprehend 18 words in Indonesian with fewer words understood in German – about 14.

It can also be seen that the child could understand more words in Indonesian than in German. This could be related to the fact that she received more dominant exposure in Indonesian when compared to German. "Dominant" in this case means that more people were speaking Indonesian to the child compared to German.

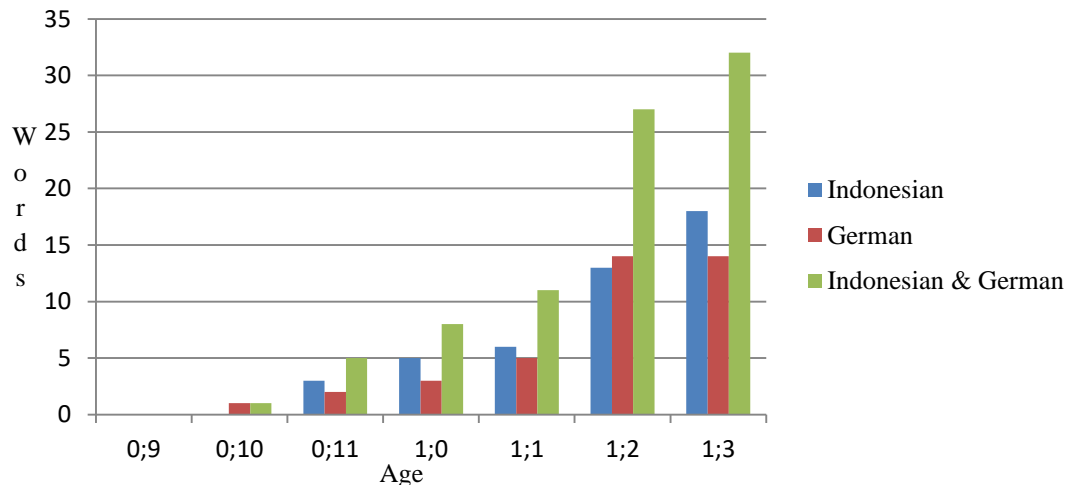


Figure 1. Comprehension of Indonesian and German words at ages 0;9 to 1;3

Other than words which can be classified either as Indonesian or German, Alyssa could also understand proper nouns which were used in both languages. The first proper noun recognized by the child was her own name, "Alyssa", at age 0;9. This was proven since she gave certain gestures when her name was mentioned or called, such as turning her head, crawling towards the person who called her, extending her hands wanting to be held, or smiling. At age 0;9 it was observed that Alyssa could understand when her name was called and reacted

when she heard it. In a video recording, it was observed that Alyssa was playing with some Lego blocks. When her father said "Hi, Alyssa!", she looked up and turned her head towards the father and then started to crawl towards him. Similar reactions were observed when her sister played with her. Alyssa was playing in front of a small cupboard and the sister said "Alyssa!". Hearing her name, she turned her head towards the sister and crawled to the open drawer the sister was pointing at. Whenever she heard her name, she gave some responses (e.g.

turning her head, looking up or crawling towards the speaker).

She was able to walk at the age of 11 months. At age 1;0 she was able to recognize the names of people around her. Words such as *mama*, *papa*, *Michelle*, *Kadek* and *Tante Tuti* “Aunt Tuti” – (a family friend) were often heard by the child. When hearing those words, she looked or turned her head towards the person calling the name. For instance, one day, Tuti came to visit the family. Alyssa was in her baby box – a wooden play area 2x2.5 m in size placed on the porch. Her mother looked at the child and said “*Tante Tuti datang, tante Tuti datang, ada tante Tuti!*” “Aunt Tuti is coming, Aunt Tuti is coming. There is aunt Tuti!”. Alyssa immediately stood up, holding the edge of the baby box, crying out happily while swinging her body, pounding her feet and trying to stick out her head so she could

look to the front of the house, where Tuti was coming from. Every time Alyssa heard the word *Tuti* or saw Tuti in person, she almost always gave a similar response, a response that marked a sense of pleasure in her mind. This can be attributed to the fact that every time Tuti paid a visit, she always addressed her happily in a high-pitched voice and tickled her tummy. Tuti often carried her on her back or under her arm while playing peekaboo, or held out a toy towards the child while singing happily and giggling (actions often performed when they were together).

Besides recognizing the names of people around her, the child also started to comprehend objects in her environment or words related to her activities. Words in Indonesian and in German comprehended from age 0;9 up to age 1;3 are listed in Table 1.

Table 1. Words in Indonesian and German comprehended by the child

Indonesian		German	
<i>ndak</i> (0;11)	no, don't	<i>iss</i> (0;10)	eat
<i>buang</i> (0;11)	to through	<i>telefoniere</i> (0;11)	to phone
<i>jangan</i> (0;11)	don't	<i>Schuhe</i> (1;0)	shoes
<i>susu</i> (1;0)	milk	<i>geh</i> (1;1)	to go
<i>makan</i> (1;0)	to eat	<i>brumbrum</i> (1;1)	motorbike
<i>krupuk</i> (1;1)	crackers	<i>Milch</i> (1;2)	milk
<i>tidak</i> (1;2)	no, don't	<i>heisse</i> (1;2)	hot
<i>dada</i> (1;2)	goodbye	<i>Arme</i> (1;2)	arms
<i>telepon</i> (1;2)	to phone	<i>hoch</i> (1;2)	high
<i>berenang</i> (1;2)	to swim	<i>komm</i> (1;2)	come
<i>taruh</i> (1;2)	to put	<i>nein</i> (1;2)	no, don't
<i>botol</i> (1;2)	bottle	<i>nicht</i> (1;2)	no, not
<i>meja</i> (1;2)	table	<i>Ballon</i> (1;2)	balloon
<i>mandi</i> (1;3)	to have a bath	<i>fertig</i> (1;2)	finish
<i>kucing</i> (1;3)	cat		
<i>cium</i> (1;3)	to kiss		
<i>panas</i> (1;3)	hot		
<i>cicak</i> (1;3)	small gecko		

How the child comprehended the speech in Indonesian and in German from the adults around her, as listed in Table 1, is described in the following (including the context).

In a recording made when the child was 0;10, Kadek (the caregiver) could be seen feeding her. While having the meal, she was crawling around on the terrace. Once she approached the father (who was sitting on the floor by the entrance). She then crawled across the father's legs and reached for her sister's sandal. The father said *Iss du mal!* “Go and eat!”. After hearing what her father said, she lifted the sandal, showed it to the father, looked at him, and brought the sandal to her mouth. The father meant to ask Alyssa to go to Kadek and eat, but hearing the word *iss* “to eat” Alyssa tried to bite her sister's sandal. Her reaction showed that she understood the word *iss* “to eat”, which was spoken in German.

At age 0;11, Alyssa was recorded playing in the yard. She sat down on the ground and was playing with sand and stones. Among the little stones she played with, there was a piece of rubbish. She took the rubbish with her right hand. The mother saw it and said *Jangan, Alyssa!* “Don't do it Alyssa!”. She picked the rubbish up and showed it to the mother. Looking at her, the mother said, *Ndak, ndak, mama ndak mau, buang, buang di tong sampah!* “No, no, I don't want it. Throw it away in the dust bin!” Alyssa pulled her arms back and looked at the rubbish in her hand and then threw it away on the ground. After the warning from the mother, which used high-pitched sounds and repetition of *ndak* “no, don't” and *buang* “to throw” in Indonesian. When Alyssa heard the word *ndak*, she did not do what she originally intended to do, i.e. she did not give the mother the piece of rubbish. Moreover, when she heard the word *buang* “to

throw", she reacted by throwing the piece of rubbish. Therefore, it can be stated that Alyssa could understand the words *ndak* "no" and *buang* "to throw", in Indonesian.

At the same age, she was also recorded taking a mobile phone and showing it to her father and mother. Her father said *Alyssa, telefoniere noch mal!* "Alyssa, make another phone call!". Alyssa took the mobile phone and put it to her ear and produced a vocalization [a a a]. The next day, she found the remote control on the sofa, took it and showed it to the father, and brought it close to her ear and babbled [a a a]. It can be interpreted that the child refers to the telephone by putting certain objects close to her ear and then producing vocals.

Alyssa also could recognize the names of objects in the house environment. This was caused by her becoming accustomed to seeing those objects because the objects were often mentioned, or because of activities that were done habitually. For example, every morning her father always took Michelle to school (Michelle was already a primary-school student). When taking Michelle to school, her father always took Alyssa with him. Before leaving for school, every morning there was the same routine. When her older sister was ready to put on her school dress and shoes, her father called Alyssa saying *Alyssa, hol mal deine Schuhe! Ja, Alyssa hol, hol mal deine Schuhe!* "Alyssa, take your shoes. Yes, Alyssa, take your shoes!". Alyssa looked at her father and then saw the corner where her pairs of shoes were placed in a row. After walking towards them, Alyssa took her shoes and brought them to her father to show him. Her father's speech to Alyssa also consisted of repetition and she understood the word *Schuhe* "shoes" in German.

At age 1;0, Alyssa also understood the word *susu* "milk" in Indonesian. When the mother asked her *Mana susunya Alyssa? Mana susunya?* "Where is the milk, Alyssa? Where is the milk?" with a strong emphasis on and repetition of the word *susu*, Alyssa turned her head towards a table where a box of milk had been put. She walked towards the table, took the milk box and produced vocals [a a a a]. Another word in Indonesian understood by Alyssa at this age was the word *makan* or *maem* "to eat". Whenever she heard those two words, she pointed at the rice cooker or meal on a table. The next Indonesian word comprehended by Alyssa was the word *krupuk* "crackers" at age 1;1. She loved *krupuk*. When she was brought to a *warung*, a typical Indonesian small family-owned shop, and heard the word *krupuk*, she pointed at them and babbled [a a am ma].

At the same age, it was noted that she could also respond productively to her father's utterances spoken in German. Her father often addressed the child using such utterances as in (1), (2) and (3), usually repeated several times:

(1) *Geh zu deine Mama!* "Go to your mother!"

(2) *Geh, such mal Michelle!* "Go and look for Michelle!"

(3) *Geh, such Kadek!* "Go and look for Kadek!"

When the child heard (1), she walked to the kitchen where her mother was making a cup of tea. Her father often asked Alyssa to look for her older sister too. For example, it was noted that when her father, who was sitting on the porch, said (2), Alyssa walked to the kitchen. She did not see her older sister there. Then she walked to the bathroom. She looked at her older sister in the bathroom combing her hair. As she looked at her older sister, she produced vocals [a a ε ε]; then she walked back to the place where her father was sitting. The same was true when her father asked the child to look for Kadek as in (3). Alyssa walked around the house, to the kitchen, to the bedroom, to the bathroom, looking for the person whose name was mentioned by her father. Hence, Alyssa's response to the father's speech tells us that she understood the word *geh* "to go" in German because when she heard the word, she not only turned her head but tried to find where the person was.

At age 1;1, her father said (4) to Alyssa:

(4) *Gleich gehen wir brumbrum!* "Soon, we'll go on the motorbike!"

The word *brumbrum* was used by the father to refer to a motorcycle. The word *brumbrum* was repeated as the way the father communicated to the child that they would go on the motorcycle. When her father said *brumbrum*, Alyssa went to take her cap, shoes and helmet, which were placed in a row on the porch. She even tried to put the helmet on her head. The cap, the helmet, the shoes and a beach sarong were all used by Alyssa and her father when they were riding on the motorcycle. The response from Alyssa indicated that she understood the word *brumbrum* in German.

On the other hand, at the same age, when her mother said *brumbrum* to the child as in (5), the child gave a slightly different reaction:

(5) *Alyssa, ikut! Ke pasar yuk, naik motor brumbrum!* "Alyssa, come! Let's go to the market on the motorcycle!"

Hearing (5), the child went to the back of the door, pointing at a black sling that was usually hung there. The child remembered that she was always carried in the sling when her mother said they were going for a ride. When the child was 1;2, the reaction to the expression *Alyssa ke pasar yuk, brumbrum!* said by her mother became more varied. The child walked to the back of the door, pointing at a cap, pulling the sling, and pulling her mother's bag several times. The bag was always carried by her mother to the market. When pointing at and pulling the bag, she was always heard making the utterances [a a ε ε]. Her reaction convinced us that *brumbrum*

was understood as a word referring to going out on the motorcycle and that she needed all the necessary things for the ride.

At age 1;2, the child's responses to her father's utterances in German and her mother's in Indonesian became increasingly developed from day to day. An example of her responses to German could be seen when her father repeatedly uttered (6):

(6) *Nimm deine Milch!* "Take your milk!"

The child walked and looked around the floor of the porch, found a milk bottle, picked it up, and then brought the bottle to her father. So she understood the word *Milch* "milk" in German. The same was true when her father mentioned *heisse* "hot". The word *heisse* was always spoken when there were high-temperature objects around the child, for example, a hot cup of coffee that her father had, a hot cup of the tea that her mother always drank, or a cup of chocolate milk being drunk by her older sister. Every time that she heard the word *heisse*, Alyssa tried to touch the cups. However, she always kept her hand just above the hot surface, then took it away and shook it.

The response was also shown when her father said *Arme hoch!* "Lift your arms!" The words *Arme hoch* were often said by her father to Alyssa when they were riding a motorcycle together. Her father sat her in the front of the motorcycle and before leaving always tied the beach sarong around Alyssa's body. While doing this, her father always said *Arme hoch!* When Alyssa heard the words, she automatically lifted up her arms.

At age 1;2, Alyssa was playing cards while in a chair. Accidentally, some cards fell to the floor. When the cards fell, she produced the sounds [a a a]. Seeing this, her father said (7):

(7) *Hol sie, hol sie ja!* "Pick them up, pick them up, yes!"

Hearing (7), Alyssa got down from the chair and picked up the cards scattered on the floor. The next day, Alyssa was given some chips wrapped in a plastic bag. She tried to bite the chips in the plastic bag, but could not get the chips out. This way of biting the plastic bag was an imitation of the way she often saw her older sister opening a plastic bag. Looking at Alyssa trying to bite the plastic bag, her father said (8):

(8) *Komm, ich mach das auf!* "Come, I'll open it!"

Alyssa went towards her father, holding the bag out. Her father took out a chip and gave it to Alyssa. Alyssa smiled and put it into her mouth.

Alyssa was also able to show responses that were varied and expressive when she heard words that mark negation both in German and Indonesian, such as the word *nein* meaning "no" or in this context "don't". A similar reaction also occurred

when she heard the words *jangan*, *ndak* or *tidak*, which also means "no" or "don't", depending on the context. One day the child was playing with an iron door in the porch. Her father was saying that it was dangerous since the child's feet could be clamped by the door. No sooner had her father finished talking than her toes were clamped and she cried out loudly because of the pain. She wept for a long while. The next day, Alyssa again held the same door. She was holding the edge of the door and tried to pull it. Looking at this, her father said (9) in a high-pitched voice aiming to stop the child from playing with the door:

(9) *Achtung, Alyssa nein!* "Be careful, Alyssa, don't!"

Hearing this, Alyssa suddenly stopped and looked at her father showing dissatisfaction, and then wept while releasing her hand from the door. She walked towards her father while she kept crying. From the observation over three months, other reactions shown by the child when hearing the word *nein* in German or *jangan*, *ndak* and *tidak* in Indonesian were shaking her head, weeping, crying loudly, twisting her body (if the child was being put in the sling), shaking her body, deliberately falling to the floor, rolling on the floor or pounding her feet.

The child also gave certain responses when hearing other forms of negation from her father, such as the word *nicht* "not". For example, Alyssa always tried to pick up rummy cards piled on the table. The cards were used by her father and the elder sister to play Canasta (a card game). Every time Alyssa looked at the cards, she always held out her arm to get them. Looking at this, her father always said (10):

(10) *Nicht die Karten!* "Not the cards!"

When her father said (10), automatically Alyssa pulled her arm back and looked at her father.

In addition to the responses to German, Alyssa also gave responses to the people around her saying *dada* "goodbye" in Indonesian. Alyssa started to say *dada* while waving her hands every time she went somewhere or when she looked at other people leaving. It can be said that the child was familiar with the connection between the gesture of waving hands and the word *dada*.

Alyssa was also often taken care of by her grandmother, who visited occasionally, since she lived in another regency. One day at age 1;2, her grandmother said *Mana teleponnya?* "Where is the phone?". Alyssa walked towards the phone toy in the corner of the room, took the handle, and then pressed it to her ear while babbling.

When Alyssa was 1;2, her father bought her a pink lifebelt. Every time she went swimming, the

lifebelt was tied to both of the child's arms. One day, her mother said (11):

- (11) *Alyssa berenang yuk, berenang!* "Alyssa, let's swim, come on, swim!"

She walked to the bathroom and took the lifebelt from the floor. She showed the lifebelt to her mother. Then she tried to come backwards down the steps to the porch, holding onto every step, and then she walked towards the pool. Every time the word *renang* "to swim" was heard, she always looked for the lifebelt.

The next three words in Indonesian understood by Alyssa at age 1;2 were *taruh* "to put", *botol* "bottle" and *meja* "table", as can be seen in (12):

- (12) Mother : *Taruh, taruh botolnya di atas meja!* "Put, put the bottle on the table!"

Listening to what the mother said, Alyssa walked towards the table and put the milk bottle on the table. Her reaction tells us that the child could understand the three Indonesian words since she put the bottle in the appropriate place requested by the mother and not, for example, on the floor. Moreover, she put the bottle there, not a glass, and did not throw it away.

At this age, Alyssa could also understand the word *Ballon* "balloon" in German. Her understanding of the word *Ballon* can be seen from the video recording as illustrated in (13):

- (13) Father: *Alyssa, da ist deine Ballon!* "Alyssa, there is your balloon!"

Alyssa: (Turns her head, walks towards the balloon, squats down and tries to take it in her hand)

Another word in German that Alyssa could respond to appropriately at age 1;3 was the word *fertig* "finished". In a recording, she was shown eating some cornflakes. Her father asked her *Alyssa,*

*bist du fertig? Fertig?* "Alyssa, have you finished? Finished?" In response to the question, she shook her head and blinked her eyes; then she took some cornflakes and brought them to her mouth.

Similarly to the development in comprehension in German, from age 1;3, Alyssa started to comprehend more words in Indonesian. The word *mandi* "to take a bath or a shower" in Indonesian could be understood. Every time she heard the word *mandi* uttered by her mother or by her elder sister, as shown in (14) and (15), the child gave a similar response:

- (14) *Ayo mandi Alyssa!* "Let's take a bath, Alyssa!"

- (15) *Mandi yuk!* "Take a bath, come on!"

Alyssa walked to the bathroom while trying to pull the edge of her shirt up. This showed that she wanted to take off her shirt but could not do it alone. When she wanted to take off her shirt, she always lifted up both of her arms.

The child was also able to respond when hearing the word *kucing* "cat". The family had three cats. When her mother asked *Mana kucingnya, Alyssa? Mana kucingnya?* "Where is the cat, Alyssa? Where is the cat?" Alyssa pointed at the cats sleeping in a relaxed position on the porch. The next word in Indonesian understood by Alyssa was the word *cium* "to kiss". Once her elder sister said *Sini Alyssa, cium kakak!* "Come here Alyssa, give me a kiss!". Alyssa walked towards the sister, bringing her face close to the sister's face, and gave the sister a kiss.

### Comprehension of Translation Equivalents

When the child was 1;3, she could comprehend five translation equivalents (TEs). Table 2 shows the list of TEs understood by the child.

Table 2. Comprehension in TEs

Indonesian	German	English meaning	Time gap (months)
<i>ndak</i> (0;11)	<i>nicht/nein</i> (1;2)	no, not, don't	3
<i>susu</i> (1;0)	<i>Milch</i> (1;2)	milk	2
<i>makan</i> (1;0)	<i>iss</i> (0;10)	to eat	2
<i>telepon</i> (1;2)	<i>telefoniere</i> (0;11)	to phone	3
<i>panas</i> (1;3)	<i>heisse</i> (1;2)	hot	1

Out of 18 words understood in Indonesian and 14 words in German, five TE comprehension pairs were identified, as can be seen in Table 2. Table 2 also shows that Alyssa's comprehension of a new word followed by the comprehension of its equivalent took an average mean time of 2.2 months; it can be interpreted that the child was able to absorb different words that refer to the same object, state or activities at a relatively young age. This finding corroborates the findings of Dehouwer, Bornstein and DeCoster (2006) and Nakamura (2010).

The child could already comprehend some TEs even before she could produce her first words, which happened at 13 months. This it proves that the child has the capacity to differentiate two linguistic systems at the pre-linguistic stage. Another important aspect emerging from this study is that even though the child received dominant exposure in Indonesian compared to German, comprehension of TEs in German also emerged. The finding implies that at a very young age, a child that is exposed to two different languages and hears the two languages regularly already has the capacity

to become bilingual, even if one language is dominant.

## CONCLUSION

This study has focused on describing a bilingual infant's comprehension of adults' verbal input addressed to the child in an Indonesian-German language environment, and the child's understanding of TEs. The child was observed from age 0;9 to age 1;3. The results show that adults' verbal inputs in the form of speech spoken to the child were in the form of short utterances, often with very high-pitched sounds and rich with repetition. In the pre-production stage, the child could understand words in Indonesian as well as in German including some bilingual synonyms.

This study also shows that the child could comprehend more words in Indonesian when compared to German. This might be related to the fact that the child received dominant exposure in Indonesian. Moreover, the child's ability to understand TEs is also proof that from the very beginning (even in the pre-linguistic period) a child exposed to two languages simultaneously already has the capacity to acquire dual lexical knowledge.

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