The Signed Languages of Indonesia: An Enigma

Hope M. Hurlbut

The Signed Languages of Indonesia: An Enigma

Hope M. Hurlbut

SIL International®
2014

Abstract

In 2003–2005, SIL International undertook a lexicostatistical survey of the signed languages of Indonesia. Wordlists and stories were collected from each of the nineteen states where one or more schools for the Deaf were run privately or by the government. The wordlists were video recorded and transcribed by hand using the SignWriting orthography.

The results of the wordlist comparisons point out the need for intelligibility testing between users of the various varieties of Indonesian Sign Language. Intelligibility testing should be carried out sometime in at least eleven of the nineteen states where the similarity between the signs in the list is low. This paper focuses on the results of the lexicostatistical survey.

There are at least two signed languages in use in Indonesia, Indonesian Sign Language and Bengkala Sign Language. Bengkala Sign Language is an isolect found in northern Bali in the village of Bengkala where there is a high proportion of Deaf among the inhabitants. It has been called Bali Sign Language in the past, but since it seems to be more or less confined to the village of Bengkala, it seems better to call it Bengkala Sign Language. The rest of the Deaf on the island use a form of Indonesian Sign Language. At the time of the survey there were two Deaf youth from Bengkala going to school in the Deaf school (or a Deaf class) in Singaraja which is about 17 kilometers from Bengkala Village.

American Sign Language (ASL) was introduced to various Deaf in scattered areas in Indonesia over the years by groups such as Peace Corp, missionaries and perhaps others, in some cases as recently as the 1990s. ASL seems to have influenced the indigenous sign languages of Indonesia, but that influence has only resulted in a partial identity with ASL. Some areas seem to have had very little influence at all, resulting in the very low similarity scores in the lexicostatistical survey in some places.

Contents

Acknowledgements

Introduction

According to the Ethnologue (Lewis, 2009) which contains a comprehensive listing of the world's languages there are more than one hundred and thirty signed languages in the world today. There are two signed languages listed for Indonesia, Bali Sign Language, spoken in only one village on Bali where there is a high incidence of deafness, and Indonesian Sign Language, which was developed by the Deaf[1] children outside the classroom in the days of oralism[2].

As part of the SIL language survey of Indonesia, a Level One language survey or Rapid Appraisal Survey of the Deaf of Indonesia was carried out (see Parkhurst 1998). Hurlbut, a member of SIL, and Rumada, a Deaf Indonesian lady, started a survey of the Signed Languages of Indonesia in January 2005. Wordlists were videotaped from all the provinces in Indonesia where there were Deaf schools listed in the materials from the Education Department (Kamus 2001). Stories were also videotaped from each subject, usually two to four stories in each place visited.

1   The deaf

According to Schein (1987) "approximately one out of every thousand children in developed countries are born deaf." On a broader scale, the Deaf in any people group comprise from one to three individuals in every 1000 births (Parkhurst, 1997). Most Deaf children (more than 90%) are born into families where both parents are hearing (Mitchell, 2005). They have no way to learn a language either spoken or signed. They do not learn to speak because they cannot hear, and they do not learn to sign because there is no model to follow and no one to teach them. Most deaf worldwide grow up without any language. The family will often develop a few rudimentary signs, called "home signs", but a sign language does not occur in isolation.

Usually Deaf children learn a signed language in school. The few Deaf children who are born into Deaf families will usually learn the sign language of their parents in the normal way that hearing children learn from their parents. If there are a group of deaf children in a school where no sign language is taught the children will develop a sign language in a few years. For examples, note that this is how Penang Sign Language developed in Malaysia in the 1950s to 1970s (Hurlbut, 2000), and this is also how Nicaraguan Sign Language has been developing in Nicaragua (Morgan and Kegl, 2006).

Deaf children who have been to school do not necessarily learn to read the language they are taught in school. Most, if not all, written languages are based to some extent on the sound system of that language. Since the Deaf child cannot hear the sounds of the written language he has no way to decipher how it should be spoken or what the symbols on the page mean. He must memorize every word individually, as if he were memorizing a series of telephone numbers. It is small wonder then that an average Deaf high school graduate in a developed country typically has a reading level of about grade 4 (primary 4). In many countries many Deaf children who have completed school very soon lapse into illiteracy again.

---

[1]Some years ago the convention was started in the United States of using upper case Deaf to refer to those who are hearing impaired, use sign language and consider themselves to be part of a community of Deaf people. Lower case deaf refers to the audiological condition or to the hearing impaired, often older people, who are more comfortable in the hearing world. (Parkhurst, 1997)

[2]Oralism is a system of teaching the Deaf to speak and read the lips of the person he or she is talking to. This system began in 1880s, and lasted for about a hundred years in most deaf schools throughout the world. It is gradually being replaced by a new system called "Total Communication" whereby Deaf children are taught to sign, and if they have residual hearing they are taught to speak and lip read as well.

1.1   The deaf of Indonesia

According to the Ethnologue there are about 2,000,000 Deaf people in Indonesia. This figure probably includes all late-deafened individuals as well as those born deaf and other pre-lingual deaf.[3] Only a small percentage of Deaf children in Indonesia attend school.

The Deaf have formed an organization called Gerkatin, an acronym for "Gerakan untuk Kesejahteraan Tunarungu Indonesia" meaning "Movement for the Welfare of the Indonesian Deaf". This organization has spread to many of the provinces of Indonesia and its members promote the welfare of the Deaf by having lectures, sports, sewing classes, computer classes and other activities for them. Sometimes they are able to assist the Deaf in finding work.

Other than Gerkatin activities the Deaf youth will gather in each others homes for various activities. The older Deaf will meet similarly, but the two groups do not usually get together for activities.

According to Sorta Siregar, Vice President of Gerkatin in 2003, Indonesian Sign Language is different from other signed languages. She thought that Indonesian Sign Language may be somewhat related to Malaysian Sign Language.

There were no government subsidies yet for the Deaf at the time of the interview.

1.2   History of deaf education in Indonesia

According to a publication from the Special Education Department, there are 83 Deaf schools in Indonesia (Keadaan, 2001). According to another section of the same set of materials we were given in 2005 there were 76 schools for the Deaf in the country. Some are government schools and the remainder may be private schools. A number of the schools that were listed in the materials from the government were run by the Catholic church or privately run. Ultimately, all the Special Schools are under the supervision of the Education Department.

Most of the Deaf children who go to school only attend classes up to Class 6, and then learn a trade, or some other skill such as sewing. The very clever ones sometimes go on to high school, but the dropout rate in high school is high because they cannot understand in class. There are no high schools or vocational schools for the Deaf yet. Occasionally a Deaf young person is sent to Gallaudet University in Washington, D.C., but usually he or she does not return to Indonesia after graduating.

1.2.1   Deaf education in Bandung

Before the signed languages survey began officially, the author attended an international Deaf conference in Bali, Indonesia in 2003 and met many Indonesian Deaf, including the Deaf pastor there. Afterwards the latter wanted to visit several places where Deaf congregate, and invited several of us to go along. We met quite a few more Deaf and the author was able to video some of them signing. One of the places visited was the School for the Deaf in Bandung. This was the first school for the Deaf in what is now Indonesia, and was founded by the Dutch in 1933. The pastor had attended that school as a child. The school is still functioning, but as it was holiday time there were no classes in session.

1.2.2   Deaf education in Jakarta

The first school for the Deaf in Jakarta, the capital city, was opened in 1970. There are now thirteen schools for the Deaf in the city. Some are run by the government, others by private

---

[3]Pre-lingual Deaf means those who are born deaf, or who become deaf before they learn to speak well.

bodies. There are both primary schools and secondary schools, all of which charge school fees, so many Deaf children are unable to attend school because of the cost.

One well-educated Deaf lady told us that in the early 1970s an American lady came to Jakarta to open a school for the Deaf and introduce ASL to them. ASL then spread to some other areas of the country.

1.2.3 Deaf education in the provinces

Indonesia is a big country, covering almost as much area as the United States and with similar population figures, but the land mass is composed of thousands of islands and the majority of the area is ocean (See map in Appendix A). There are a total of thirty-three provinces (not counting Jakarta), nineteen of which have Deaf schools. Deaf children from the remaining fourteen provinces have to go to school in a neighbouring province which may be on another island.

1.2.3.1 Deaf education in Sumatra

There are 4 schools for the Deaf in Sumatra. There were none in Acheh at the time of the survey, so the Deaf children from Acheh have to go to another province for schooling.

1.2.3.2 Deaf education in Java

There are many schools for the Deaf on the island of Java. In addition to those in Jakarta (13) and West Java (11), there are also schools in Central Java (15), Yogyakarta (2), and East Java (19).

1.2.3.3 Deaf education in Kalimantan

There are few schools for the Deaf in Kalimantan. There is a school for the Deaf in the capital city of each of the four provinces, plus three others. Most of Kalimantan is difficult to access, because of the hills/mountains on the west side and large swampy areas in the centre and south. Consequently there are few roads, and many places are only accessible by boat or in some cases by airplane. Undoubtedly there are many Deaf children in the interior areas who never have a chance to go to school.

In the school in Pontianak, West Kalimantan, we were told that they did not use oralism alone but have had a thriving indigenous sign language since about 1936. However, when the government sent out the new sign language dictionary (Kamus Sistem Isyarat Bahasa Indonesia. 2001)[4] to them some years ago they started to transfer over to the new system in the school.

1.2.3.4 Deaf education in Sulawesi

Unlike Kalimantan, Sulawesi has a long coastline with a relatively narrow landmass which gives fairly easy access to the sea. However there are only three schools for the Deaf on the island.

1.2.3.5 Deaf education in the smaller islands

Some of the smaller islands have schools for the Deaf, such as Maluku (1), Bali (2) and West Timor (2), some of which are relatively new. However, because they are remote from Jakarta, the capital, some of them lack some facilities, or even trained teachers for the Deaf. In one case

---

[4]This dictionary is said to be a prescriptive dictionary.

there was no one who knew any sign language, so the Deaf were being cared for physically in a small residential centre, but were not taught any language. In another case the teachers had been supplied with the Indonesian Sign Language Dictionary, but they did not know how to sign, so told the Deaf children to study the dictionary and teach themselves! At least three of the teenagers had taught themselves to sign within the previous two years. I was impressed with these young people and how accurately they could produce the signs, considering that they had no teachers who knew how to sign and there were no Deaf adults as role models. It is not always easy to understand 3-dimensional signing from a 2-dimensional page in a book. They are the forerunners of signing Deaf in that province. In yet another province, the headmaster was very proud of his success in teaching the Deaf children to speak and lip read, but when we visited his "star" pupil she could not understand us at all nor communicate with us. He had permitted signing to be used by the children in the school since 1992 when he had received a government directive to permit signing, but only allowed signing to be taught in the school after 2001 when a directive from the Education Department stated that the children must be taught to sign.

There was one success story that we found where a welfare office of the government had started a school for the Deaf, and the teachers were so keen to teach that they went out canvassing the villages looking for Deaf to teach. They would persuade the family to relinquish the Deaf person to them to go to their school and live in the hostel, so they could learn sign language and Indonesian. At the beginning they had started by using an ASL book to teach the children, until they received the Indonesian Sign Language Dictionary (Kamus Sistem Isyarat Bahasa Indonesia. 2001) from Jakarta. They had about fifty Deaf students, all young adults from about the age of 18 and up. The best student (a young man of 24 years old) was assigned to sign the wordlist for us. He had been at the school for 4 years, and did quite well.

1.3 Outside influences on the sign language of Indonesia

A number of foreigners who knew American Sign Language (ASL) and who were working on projects in Indonesia have influenced the Deaf in Indonesia. In the Indonesian Sign Language Dictionary (Kamus Sistem Isyarat Bahasa Indonesia. 2001) about half of the items used in the wordlist for this survey were borrowed from ASL. In places where there was greater contact with outsiders the scores comparing IndoSL and ASL were higher than places that lacked that influence.

Not only has ASL influenced IndoSL (also called BASINDO), but the national language, Indonesian, has had some influence, especially for colour terms. In ASL many of the colours are initialized using English initials for several of the colours, and several of them also have the same movement. IndoSL has followed suit in some provinces and uses initialized signs for some of the colours, e.g. yellow and blue and occasionally green. However the movement of the signs was usually different from ASL. The English word "blue" becomes "biru" in Indonesian, and this often resulted in a false similarity, i.e. the initial consonant was "b", but there is no resemblance between ASL "b" and IndoSL "b". The place of articulation, however, was the same. Two of the criteria were the same so the signs were called "similar" when in fact the initial "b" belonged to a different word. A number of people used the letter "W" to represent "white", though the Indonesian word is "putih", and in one place the signer voiced "putih" while signing "W". One wonders if this "W" is really a result of influence from English, or what its origin is. Others use an indigenous sign which is pointing to or touching the teeth. In a few places yellow and white used the same sign, and in one place at least "green" and "blue" were signed the same. No one borrowed the ASL sign for "black", but all used one of the indigenous signs, either drawing an index or little finger across the left eyebrow or else touching or pulling the hair Other initialized signs were used in most provinces for marital terms, e.g. "s" for "suami" (meaning husband) and "i" for "isteri" (meaning wife). The place of articulation was almost always in neutral space for "suami", and sometimes for "isteri" with the same movement. In about half of the provinces "i" for "isteri" was made at the ear where the sign for "woman" is made.

Some influence from Thai Sign Language showed up for the colour "blue" where the ASL letter "P" is signed near the face, and the middle finger rubs up and down on the thumb.

Another interesting feature that I noted was that a few people used "blended signs", e.g. one man used the local sign for "wife" plus the second syllable of the ASL sign "marry" for the meaning "wife". One lady signed the first part of "night" using ASL, but part 2 had a change of direction, ending with part 2 of IndoSL. Another lady signed both ASL and IndoSL in quick succession for the sign "yesterday". Most respondents used the ASL sign with the handshape for Indonesian "kelmarin" i.e. "yesterday".

Some influence may have come from Malaysian Sign Language (MSL), as some of the scores when compared with MSL[5] were similar to the scores between some provinces in Indonesia itself.

There seems to have been some influence from British Sign Language (BSL), as 10 out of the 26 letters of the IndoSL alphabet (see Appendix D) are the same or similar to BSL, and may have been borrowed from BSL, 8 seem to be borrowed from ASL (of which 2 were also identical with Japanese Sign Language) and 7 letters are unique to Indonesia as far as I know. (One letter, "c", was similar for all three languages.) One would expect influence from Dutch Sign Language, but it is possible that oralism was the method for education in the 1930s for the Deaf in Indonesia. None of the letters of the alphabet used in Holland and probably other European countries that differ from ASL seem to be used in Indonesia. Of course with the influence of ASL in Indonesia, the ASL alphabet is also in use in many places. The word "tomorrow" in Indonesian is "besok" and most of the signers used the ASL "b" handshape to sign "besok".

2 The purpose of the survey

The purpose of the survey was to determine which variety, or varieties, of sign language used in Indonesia would be the most useful in which to produce literature that communicates well for all the Indonesian Deaf.

Since Indonesian Sign Language has been somewhat influenced by ASL, another objective was to determine how closely IndoSL and ASL are related. Are they two dialects of the same language, or are they related but separate languages? Another objective was to determine the relationship between IndoSL and Malaysian SL (MSL or BIM, to use the local acronym). The national languages of Indonesia and Malaysia are closely related, and the two countries are in close proximity so the question was: Are the signed languages also related, as, for example, ASL and Canadian SL are related, where the national language in both countries is almost the same? Put another way, could literature produced in ASL or BIM be adequate for use in Indonesia?

3 Research questions

This paper addresses the following questions:

1. How many varieties of IndoSL are there in Indonesia? Is there one variety of IndoSL that is understood by all the Deaf?
2. In comparing the IndoSL wordlists with the ASL list and the BIM list, are they clearly the same or clearly different? Will further research be needed to determine if Deaf Indonesians need language development?
3. What are the attitudes of the signers to their own language and to other sign language varieties?

---

[5]For the comparisons between IndoSL and MSL only 216 words of the standard wordlist were used, as the wordlist used in Malaysia was updated following the survey there before any other surveys were carried out.

4 Approach

In the survey, the principal tools I used were to ask questions and video record people showing me the sign they use for a given word in a standard wordlist. The list of words chosen was basically the same list as that which was developed by the participants in the Sign Language courses at the University of North Dakota in 2002 and is the same list that I have used in other Asian countries (Hurlbut (2007).

The lists of words elicited from different people in different places were compared using a method to be described below.

It is difficult to determine what the percentages of similarities mean when comparing the wordlists, but I think it is safe to conclude that for the comparison method I am using if the percentage of similarities between the wordlists from two cities is greater than 85%, this indicates that these lists represent two varieties of the same sign language. However, if the results show percentages below 60%, we are probably dealing with different languages and the signers would not really understand each other. The same is true in comparing ASL and IndoSL.

If the results of the comparisons fall between 60% and 85%, further research using techniques other than wordlist comparisons is probably required to determine the need for language development in the signing community.

The attitudes of the signing community are sometimes an important factor in determining the need for language development, and may override the conclusions based merely on wordlist percentages.

5 Methododology

For this Rapid Appraisal survey we used a two-part wordlist. (See Hurlbut 2007.) Part one consisted of 111 pictures of items (see Appendix E), such as animals, food items, implements, vehicles, people and a few verbs, many of which were also used in the Canadian Signed Language Survey (Staley 1998).

Part two consisted of 129 words which are difficult to picture. Many of the words used came from the Canadian Signed Language survey mentioned above. Others came from a wordlist (see Appendix F) composed by the summer school students taking sign language courses at the University of North Dakota in 2002. These words were all Indonesian words which were on flash cards using size 72 point type printed out from a computer. Part 2 words were not shown the respondents who had not been to school. Many of the Deaf find it very difficult to understand words that they have never heard. As a result, in no case were we able to get a "perfect" list, i.e. a sign for every picture and written word.

In each place visited, one or more Deaf signed the words on the wordlist, and these were videotaped using a camcorder and 8 mm. videotapes. After that he or she was asked to sign a personal story about an incident that had happened to him or her.

Certain key elements of each sign were used as the basis of comparison between the signs used in any two places.

1. Handshape: This seemed to be the most important criterion, as often a change in handshape only will change the meaning of a sign, especially for signed languages that use a lot of initialization. Some signed languages such as Chinese do not use initialization but handshape still seems to be very important in all signed languages.
2. Location: The location of a sign seemed to be quite important, so was ranked second and given some weight when deciding on similarities or differences between different forms of the signs.
3. Movement: Movement seems to be much less important than handshape, but the movement still carries a lot of weight.

4. Orientation: Orientation refers to the direction of the palm of the hand which can face in all directions. Sometimes orientation is important, so it was taken into consideration when comparing signs, but in some cases, it did not seem to matter what the orientation was, especially for the base hand.
5. Contact: The presence or absence of contact and the kind of contact was taken into consideration only if it seemed important for that particular sign.
6. Non-manual signals (NMS): There were very few signs that seemed dependent on non-manual signals, since many of the respondents only used them for a few signs. For those particular signs, of course, the NMS were considered important in evaluating the sameness or differences when comparing signs.
7. Number of hands used for the sign: Usually the use of one or two hands was not significant, except that if there was some doubt about whether the signs were similar or not, the fact that one or two hands were used was taken into account.

In deciding whether two signs were similar or not, a minimum of two parameters had to be the same. For example, if the handshape of the dominant hand and the movement were the same in the two signs they were regarded as similar, even if only one hand was used instead of two hands. Differences in the non-dominant hand can usually be ignored.

A working assumption was that everyone living in the same city would know all the signs used by those from whom I was eliciting the words. Thus when comparing two cities with each other if a sign from one subject was the same or similar to any one of the signs from another city, the two were counted as similar for that item.

In Indonesia wordlists were usually taken in the capital city of a province, and these were considered to be representative of that province, though in some cases another city in that province might have a Deaf school as well.

6 Analysis and results

The wordlists were transcribed using an orthography called SignWriting (Sutton, 1999). The master list of all the signs that were offered can be seen in Appendix E.

6.1 Analysis of the wordlists

In comparing the signs on different wordlists, those that were identical were marked as such, and those that were similar had their own category. For the final comparisons these two groups were combined into one. The reason for having a category of identical was in case questions arose during the analysis of whether certain signs were really similar, the ones that were marked "identical" did not need to be revisited. The criteria for analyzing signs as the same or similar were based on the following categories. Following suggestions made by Jason and Elizabeth Parks it was decided to consider only three categories to be of prime importance: Handshape, Location and Movement.

In deciding whether two signs were similar or not, a minimum of two parameters of the three primary parameters had to be the same. Occasionally only one of these categories was present, so criteria 4 through 7 were then taken into consideration. That is, at least one of the following had to be the same in the two signs on the list: orientation, contact, non-manual signals, or the use of one or both hands in addition to one of the three primary categories. Differences in the non-dominant hand were usually ignored, especially an open or closed thumb as those handshapes are considered to be allophones (Liddell and Johnson, 1989).

As mentioned earlier, a working assumption was that everyone living in the same city would know all the signs used by those from whom I was eliciting the words. Thus when comparing the

signs from two cities with each other, if a sign from one subject was the same or similar to any one of the signs from the other city, the two were counted as similar for that item. Often there were clear regional differences in the way the Deaf signed certain items. Sometimes all the subjects would sign an Indonesian word using exactly the same sign, and those in a different city would also sign exactly alike, but the signs used in one city were quite different from those in the other. Naturally, when more subjects were recorded, there would be a higher likelihood of finding a match in the words from another city. This affected the scores in some provinces when some of the signers were uneducated, occasionally leaving only one person to sign the words in part 2. Because of the time factor for the survey, it was not possible to spend more time in any one city, so this may be a factor in getting some of the low scores on the province by province comparisons. At the time of the survey we could not do wordlist comparisons so we could not tell whether or not the signer understood either the picture or word shown. Subsequently there has been no more opportunity to re-visit the provinces where the survey was done. This points up the need for carrying out Recorded Text Testing in the affected provinces.

6.2 Interpretation criteria

Steve and Diane Parkhurst (1997) hypothesized the following criteria for evaluating the results of wordlist comparisons.

Lexical Similarity

0%–40%	=	different language family
40%–60%	=	different language, same language family
60%–70%	=	likely to be considered a separate language but intelligibility testing is necessary
70%–80%	=	unable to determine if same or different language; intelligibility testing is necessary
80%–95%	=	same language, different dialect; intelligibility testing necessary to determine how distinct the dialects are
95%–100%	=	same or very similar dialects of the same language

In a follow-up communication, Steve Parkhurst (2007) had this comment:

> I would still say that basically this is true. I would say that if similarity is above 80%, it's not really necessary to do intelligibility testing—unless you have anecdotal data saying that there is some possible miscommunication or some other issue that makes things harder to understand. I would still say that for most lists that have less than 60% similarity, you're going to need an adaptation. The 60–80 range is the big "iffy range" and needs more testing.

Albert Bickford (2007) was not quite so definite, but had this to say:

> Most of the studies I've seen tend to come up with similarity figures around 85-100% for two wordlists from the same language, and around 10-40% for two unrelated languages. So, if two samples score in the 30%-65% range, I'd say there is likelihood they've had some historical contact (not necessarily genetic, it might be borrowing or creolization), but they are probably not mutually intelligible. I'd expect that other factors would lead us to conclude that they are separate languages, and unless there is anecdotal evidence that they may be dialects of the same language, I'd just assume they are distinct languages and not test further. Between about 60% and 90%, I'd want to look much closer at other

types of evidence to help determine if they should be considered the same language or dialect, if they can use the same video materials, etc. I'd consider things such as attitudes toward other varieties of signing, perceptions of sameness or difference, evidence of regular communication between two groups, and if necessary RTT[6] testing. But, I wouldn't rely on wordlist comparisons alone to make that judgment (as the scale above implies). Rather, I'd use the wordlist comparison to distinguish clear cases from unclear ones, so as to focus the more time-intensive survey work on those situations where it is most needed.

My evaluation criteria were similar to those used by the Parkhursts and the Parks. I do not feel that the difference in categories or their prioritization that I used to compare these wordlists should make a significant difference to the scores obtained. As Bickford points out, conclusions based solely on wordlists are indicators but not completely definitive. When the scores are as highly different as they are for Indonesian Sign Language, it is important to do more research using Recorded Text Testing or its equivalent in order to assess intelligibility between the various areas of the country. If the intelligibility scores are also low it will probably be necessary to carry out two or more language development programs in the different areas of the country.

6.3 Results of the survey

The results of the comparisons of the wordlists by provinces are found in Table 1. As can be seen the results are not as clear-cut as they have been in most of the other countries surveyed so far. The range of scores is very wide and inconsistent across the country.

There are several probable reasons for the wide variation in the results. First of all the Indonesian Education Department like many others in the world favoured oralism as the policy of choice for educating the Deaf until a few years ago. When oralism is used and there are residential facilities, normally the children will develop their own secret sign language. In many places if the children were caught signing they would be punished, so they avoided signing when they might be under observation. The result was that each school had its own private sign language. As they grew older and mixed with other Deaf from outside their area their signing became mixed with that of other Deaf. Since oralism was discontinued in most schools only about 5 years before the sign language survey was carried out, a national sign language had not yet fully developed.

Secondly, there has been a lot of borrowing from American Sign Language (ASL) to a greater or lesser extent in different parts of Indonesia. As a matter of fact the government sponsored sign language dictionary (Kamus Sistem Isyarat Bahasa Indonesia, 2001) contained more than fifty percent ASL signs for the words on the wordlist used for this study. To be precise, 52% of the signs were from ASL, but 4% of those signs in the dictionary were never used by any of the respondents. Some respondents had had contact with ASL so gave the ASL sign in preference to their own sign, while others gave both the ASL and the indigenous sign. Others had apparently not been in contact with ASL signers, so they used mainly their indigenous signs, e.g. in South Sulawesi and West Kalimantan. This resulted in scores that were lower than elsewhere for these provinces. The scores in South Sulawesi especially were lower than other provinces. It is possible that their sign language is a separate one from Indonesian Sign Language. For example, many widely used terms such as "good", "bad", "spider", "pig" and some of the colours were unique to this province, even though all of the other provinces used the same sign. Note that the IndoSL terms for all these items were not borrowed from outside sources, but were indigenous signs.

Note that when the original comparisons were done for Jakarta, one of the respondents "C" chose to use as much ASL as she knew, in contrast to the others who used indigenous signs.

---

[6]RTT is Recorded Text Testing, where several subjects watch a videoed story in their own sign language, and answer questions about the story. Videos from other areas and possibly other signed languages are similarly shown and evaluated.

Although the lists in Jakarta were videoed in different places at different times, it turned out that all of the Deaf who were videoed there were friends of each other. In Chart 1, for the comparison of JAK-O ("original Jakarta" comparisons) and JAK-N ("new Jakarta" comparisons) the result was only 61% when the lists for the other respondents for Jakarta were compared with the list from "C". Since these people all seemed to be close friends and spent a lot of time together, it can be assumed that they understand each other. This seems to mean that they all have command of all the same vocabulary, but each chose to use different signs when giving the wordlist.

When the Jakarta lists were compared again with all the other provinces, excluding "C's" list, the scores dropped significantly all across the board. The range of changes was from 4% to 21%. The 21% figure, of course, was for the comparison with ASL, as the other respondents did not use much ASL, but redoing the comparisons brought the results more in line with the rest of the scores across the country. The new percentages ranged from 43% for the comparison with Bengkala Sign Language to 80% for the comparison with Central Java.

6.4 Results of the initial comparisons of the wordlists

The wordlists were transcribed using the system known as SignWriter which was invented by Valerie Sutton (Sutton 1999). This system uses hand shapes based on the expressive point of view of the signer, with arrows to indicate the type of movement and direction, and other symbols to show the type of contact, the location of the hands and place of contact, body movement and facial expression. Not all the parameters are significant in every sign, and the transcription only includes the significant features of each sign. Some of the subjects would mouth or say the words in Indonesian. This would obscure the natural facial expression that would occur with the sign, but this seems to be a normal feature of the language used by the Deaf brought up with oralism. Almost all of the schools in Indonesia forbade the use of sign language in school until close to the end of the 20th Century. The only school that we found where the children had developed a sign language was in Pontianak. This sign language was developed by the children in school during the days of oralism. It was used by teachers and pupils alike. When the government produced a signed language dictionary for the Deaf schools the teachers in Pontianak started to use it in school in order to change over to Indonesian Sign Language. The result is that the respondents there, having been out of school for some time, have not learned the new signs, so the scores for that province were lower than for most of the other provinces.

Because the initial comparisons of the wordlists mainly showed low scores in the 60s and 70s, (See Table 1 below.) it was decided to compare a larger number of wordlists with each other, so comparisons were done at the island level. Some of the bigger islands were conveniently divided into four provinces each, so the wordlists from two provinces were compared with the wordlists from the other two provinces on the same island. The groupings were as follows: North Sumatra was compared with South Sumatra, West Java was compared with East Java, North Kalimantan was compared with South Kalimantan, North Sulawesi was compared with South Sulawesi, and the remaining northern smaller islands were compared with the smaller southern islands.

The results were as follows:

North Sumatra and South Sumatra: 84%
West Java and East Java: 97%
North Kalimantan and South Kalimantan: 84%
Northern smaller islands and southern smaller islands: 90%

Grouping the provinces in this fashion shows that Indonesian Sign Language indeed seems to be one or almost one sign language. However, this way of comparing the lists skewed the results found in the province-by-province comparisons. (See columns JAK-O and JAK-N in Table 1.) At least two provinces in each grouping have been influenced by ASL, so the results obscure the

differences with the provinces that lack the influence from ASL. It is necessary to do Recorded Text Testing (RTT) to discover if the Deaf in the provinces which showed low scores can really understand the signing from other provinces, both far and near. Hopefully language development activities will be carried out in Indonesia, such as making a dictionary of the native signing of the Deaf, so that they will have the opportunity to learn the signs from other places and fully understand each other. This will require working with the Deaf to produce an updated or revised dictionary and other materials that are accessible to all. Some of the Deaf leaders feel that the currently available dictionary is not adequate to show the richness of their language.

NOTE: In Table 1 below, the underlined scores indicate 80% similarity and above. The italicized scores are those below 70% which indicate that there would probably be difficulty in understanding between the people in the two provinces concerned.

Table 1 Comparisons of Scores for Indonesian Sign Language

NSM	WSM	CSM	SSM	JAK-O	JAK-N	WJ	CJ	EJ	YOG	WK	CK	EK	SK	GOR	NS	CS	SS	BAL	WT	AMB	BENG	ASL	MSL/BIM	MSL-RTT
NSM																								
69	WSM																							
80	80	CSM																						
73	68	80	SSM																					
82	80	81	76	JAK-O																				
68	72	74	67	61	JAK-N																			
72	77	80	75	79	72	WJ																		
83	77	85	81	90	80	86	CJ																	
73	76	76	69	78	74	60	81	EJ																
77	64	74	72	72	59	70	81	69	YOG															
67	79	78	73	76	60	69	70	64	61	WK														
68	81	80	72	81	70	73	78	75	64	74	CK													
71	77	80	78	79	70	78	76	74	68	76	76	EK												
76	73	79	76	84	67	82	84	76	73	70	66	76	SK											
66	81	81	72	82	71	75	78	79	62	72	81	75	72	GOR										
76	86	85	75	84	78	77	81	83	70	75	84	81	78	80	NS									
65	83	85	70	77	66	71	74	75	60	71	82	73	68	82	82	CS								
70	65	74	77	67	57	70	68	63	70	63	62	69	65	70	68	67	SS							
81	72	77	74	77	71	73	83	76	75	63	69	75	80	68	76	70	70	BAL						
68	79	83	69	79	67	75	73	75	62	70	80	74	70	75	83	84	67	68	WT					
68	83	83	72	81	69	70	77	77	67	79	88	75	73	76	90	84	65	70	83	AMB				
				51	43										50						BENG			
38	48	46	37	72	51	45	56	63	34	46	52	43	41	52	56	51	36	39	51	51		ASL		
68	75	76	68	88	76	67	83	83	58	61	74	67	66	74	81	72	60	64	71	72		55-82	MSL/BIM	
																							44-75	MSL-RTT

Acronymns used for names of provinces

NSM	North Sumatra (Medan)
WSM	West Sumatra (Lubuk Basung)
CSM	Central Sumatra (Palembang)
SSM	South Sumatra (Lampung)
JAK-O	Jakarta Old (Initial Comparisons)
JAK-N	Jakarta New (Later Comparisons)
WJ	West Java (Bandung)
CJ	Central Java (Wonosobo, etc.)
EJ	Eastern Java (Surabaya)
YOG	Yogyakarta
WK	West Kalimantan (Pontianak)
CK	Central Kalimantan (Palangkaraya)
EK	East Kalimantan (Balikpapan)
SK	South Kalimantan (Banjar Masin)
SS	South Sulawesi (Makassar)
GOR	Gorontalo (Sulawesi)
NS	North Sulawesi (Manado)
CS	Central Sulawesi (Kendari)
SS	South Sulawesi (Makassar)
BAL	Bali Island
WT	West Timor (Kupang)
AMB	Ambon (Maluku)
BENG	Bengkala Sign Language
ASL	American Sign Language
MSL/BIM	Malaysian Sign Language/Bahasa Isyarat Malaysia

6.5 Results of further comparisons of the wordlists

The results of the initial comparisons of the lists were very mixed and did not show clearly whether Indonesian Sign Language is one language or several signed languages. The suggestion was made that the wordlists should be compared using lists from one island and comparing them with the other islands on the supposition that all words used in a region would be known by all. When these comparisons were carried out (See Table 2) the results show clearly that Indonesian Sign Language is one language. However, these results obscure the differences between South Sulawesi and other provinces. Over half of the scores in South Sulawesi are below 70% similarity, indicating that the sign language in that province may be different enough from the rest of Indonesia to warrant special attention being given to language development for the Deaf there. At some point in time Recorded Text Testing needs to be done to clarify whether or not South Sulawesi Deaf people really need separate language development or not.

Table 2 Comparisons of Indonesian Sign Language Island by Island

Sumatra				
90	Java			
90	90	Kalimantan		
91	90	90	Sulawesi	
85	92	87	89	Smaller Islands

6.6 Other signed languages

6.6.1 Bengkala sign language

On the north side of Bali Island (see Appendix B) is a small village, named Bengkala, of about 300 inhabitants, 41 of whom were Deaf when we visited there. It is situated about 17 kilometers east of the town of Singaraja. In the past the language has been called Bali Sign Language, but as far as we were able to find out the signers of this language all originate from Bengkala Village, whereas the other Deaf on Bali Island use a form of Indonesian Sign Language. It is probably better to use the name Bengkala Sign Language rather than Bali Sign Language. The language has been influenced by both ASL and IndoSL, so the scores are not as low as would be expected for an isolated sign language. (See Table 1.)

6.6.2 Possible sign language on Babar Island

A colleague[7] told me about a possible sign language on Babar Island in Maluku Province. He said everyone in the village of Imroing seemed to be able to sign. Unfortunately neither he nor I had the opportunity to travel to such a remote island to do videoing of the inhabitants there. It would be good if someone could get further information with respect to this community.

6.7 Attitudes of the deaf

In the past the school teachers have spent a lot of their time in training the Deaf children to become "hearing", i.e. learning how to speak and to lip read as best they could. They were taught exaggerated mouth movements, especially for the phoneme "th" which made it clearer what they were trying to say, but looked peculiar to hearing people.

The children would often develop a sign language amongst themselves, but in some cases the use of the sign language was suppressed. Even if signing was allowed, the children were told that it was shameful to sign in public, so many of the Deaf try to speak to each other in order to look "normal".

---

[7]Jon Richards' personal communication (2005)

When they are gathered together for club activities or parties then they are free to sign to each other. In one place visited the researcher was the only one who slept, as the Deaf stayed up all night to exchange as much news as possible in the short time before catching an early morning flight to the next island.

7 Conclusion

There are at least two sign languages in use in Indonesia at this time, namely Bengkala Sign Language, and Indonesian Sign Language with its many different dialects spoken in the different provinces.

In spite of the differences between the signing in different areas in Indonesia, the most important sign language in Indonesia for everyday use by the Deaf is Indonesian Sign Language. Some standardization is occurring because of the borrowings from ASL, and from the dictionary published by the Education Department. This trend will probably continue especially as the younger Deaf travel about in search of work.

American Sign Language has influenced the signed languages of Indonesia to some extent, but Indonesian Sign Language is the lingua franca for everyday use. When the wordlists were compared with American Sign Language the scores varied from a low of 34% to a high of 56%. The score of 72% resulting from the participation of one person in Jakarta who favoured ASL skewed the results somewhat. Hence the comparisons for Jakarta were repeated while eliminating that wordlist. See Chart 1 under column JAK-N.

Appendix A: Map of Indonesia

Appendix B: Map of Bali Island
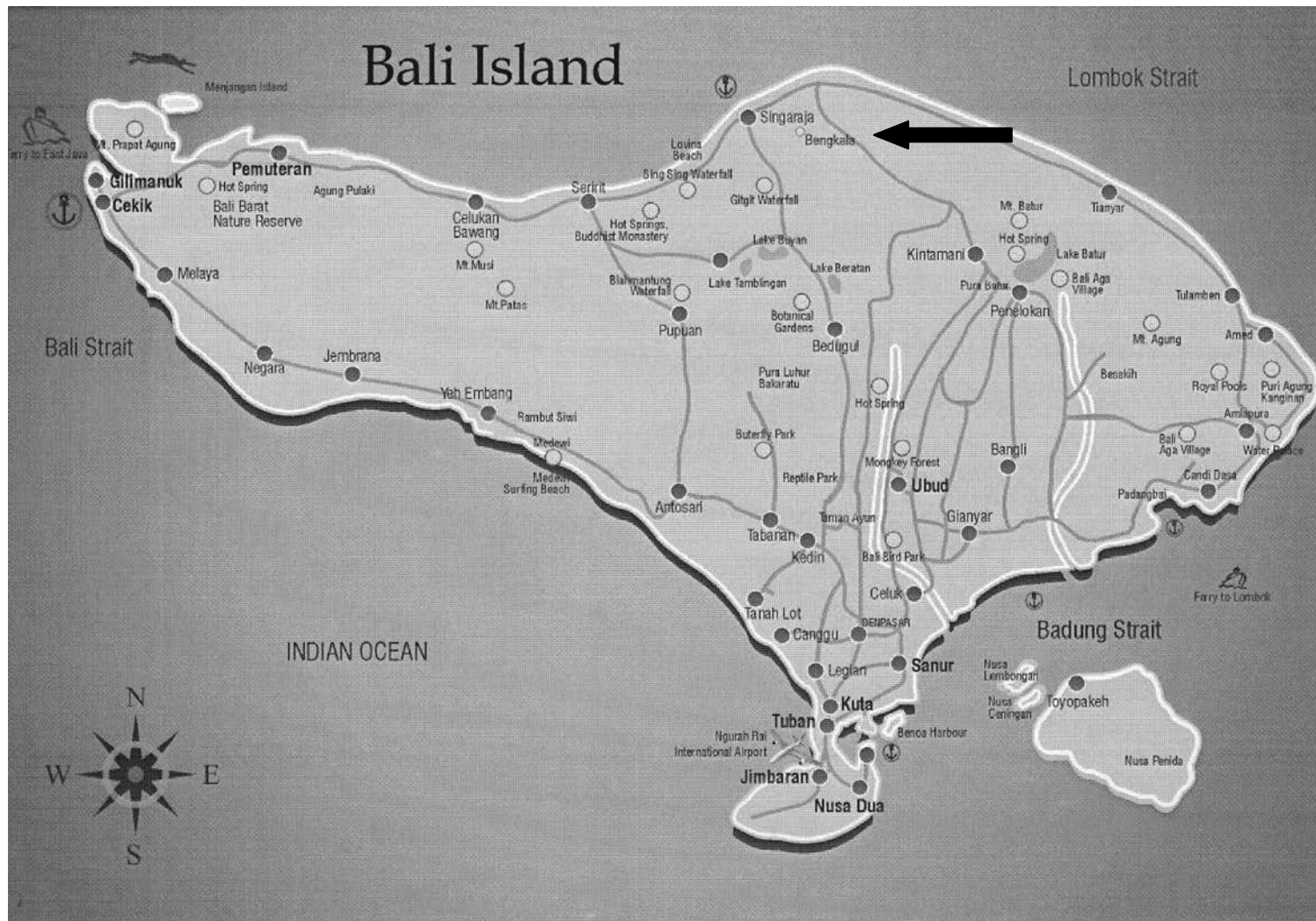
Appendix C: Indonesian Sign Language Alphabet

A   B   C   D

E   or   F   G

H   or   I   J   K

L   M   N   O   P

Q   R   S   or

U   V   W   or   X

Y   Z   or
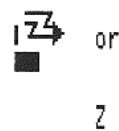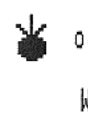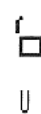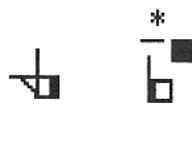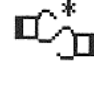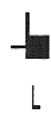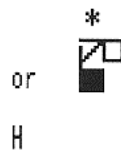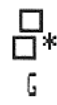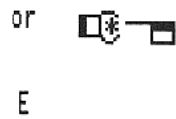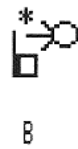
Appendix D: Indonesian Sign Language Numbers
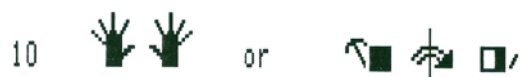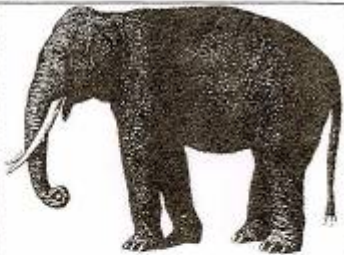
18 or or

19 or or

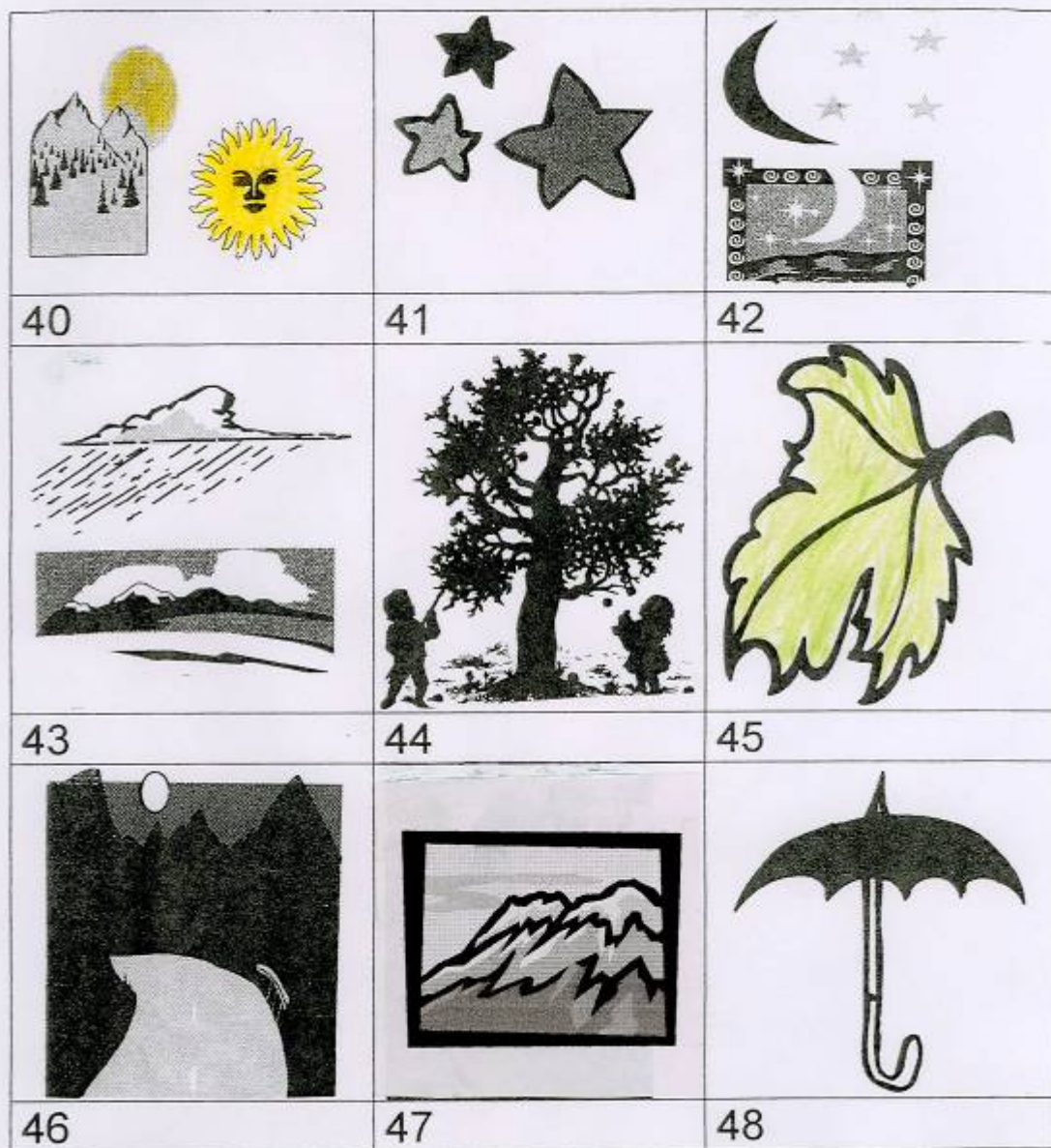20 or
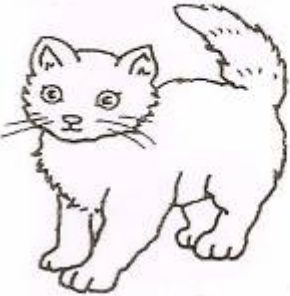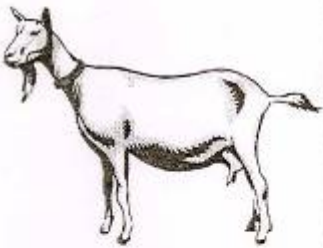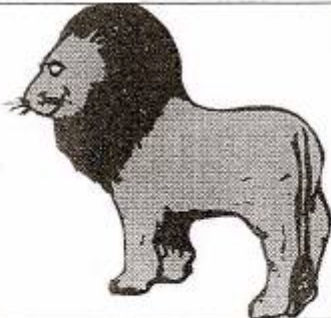
Standard   Alternative Forms

100

or

1000

Appendix E: Wordlist, Part 1 – pictures and glosses
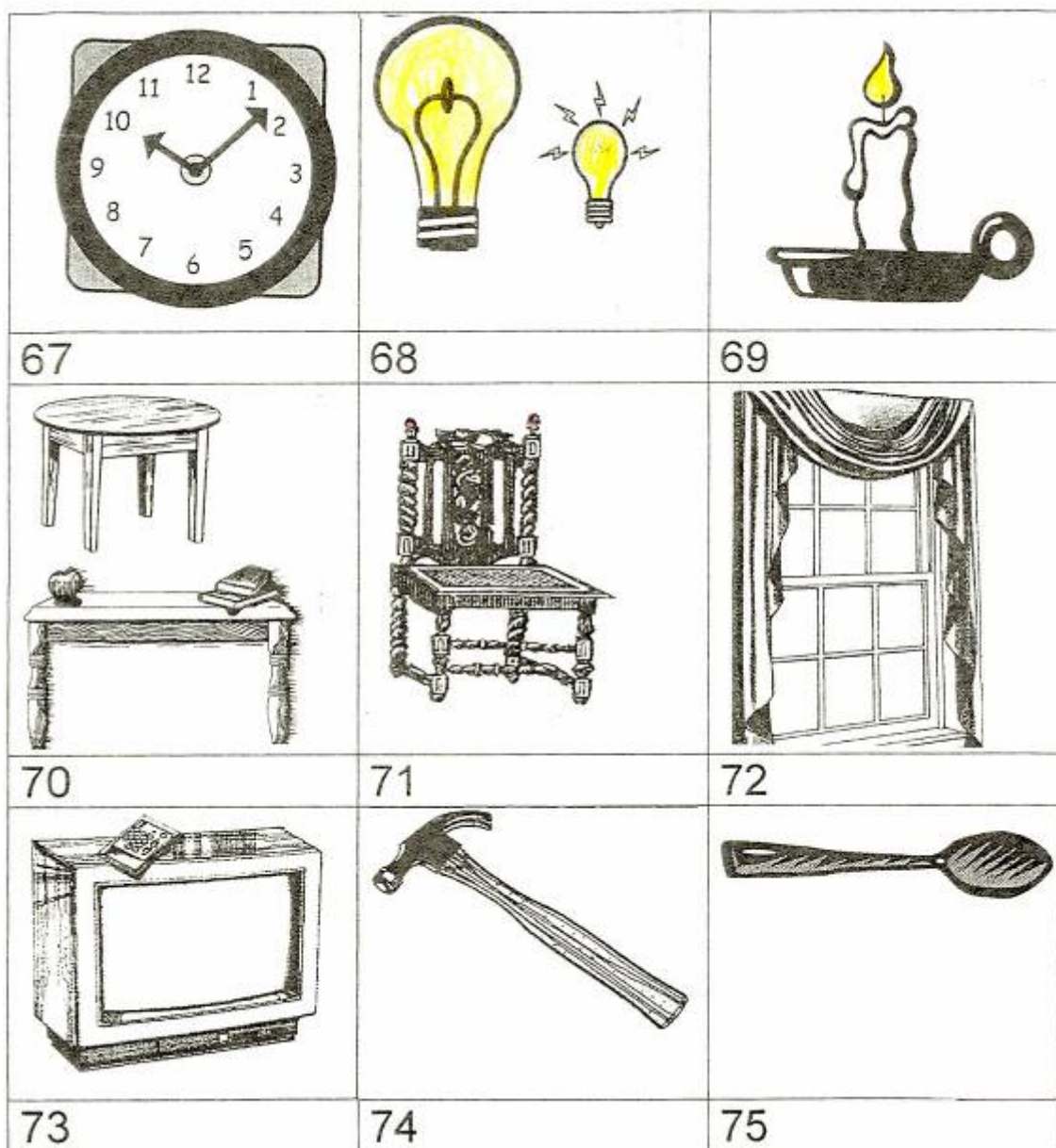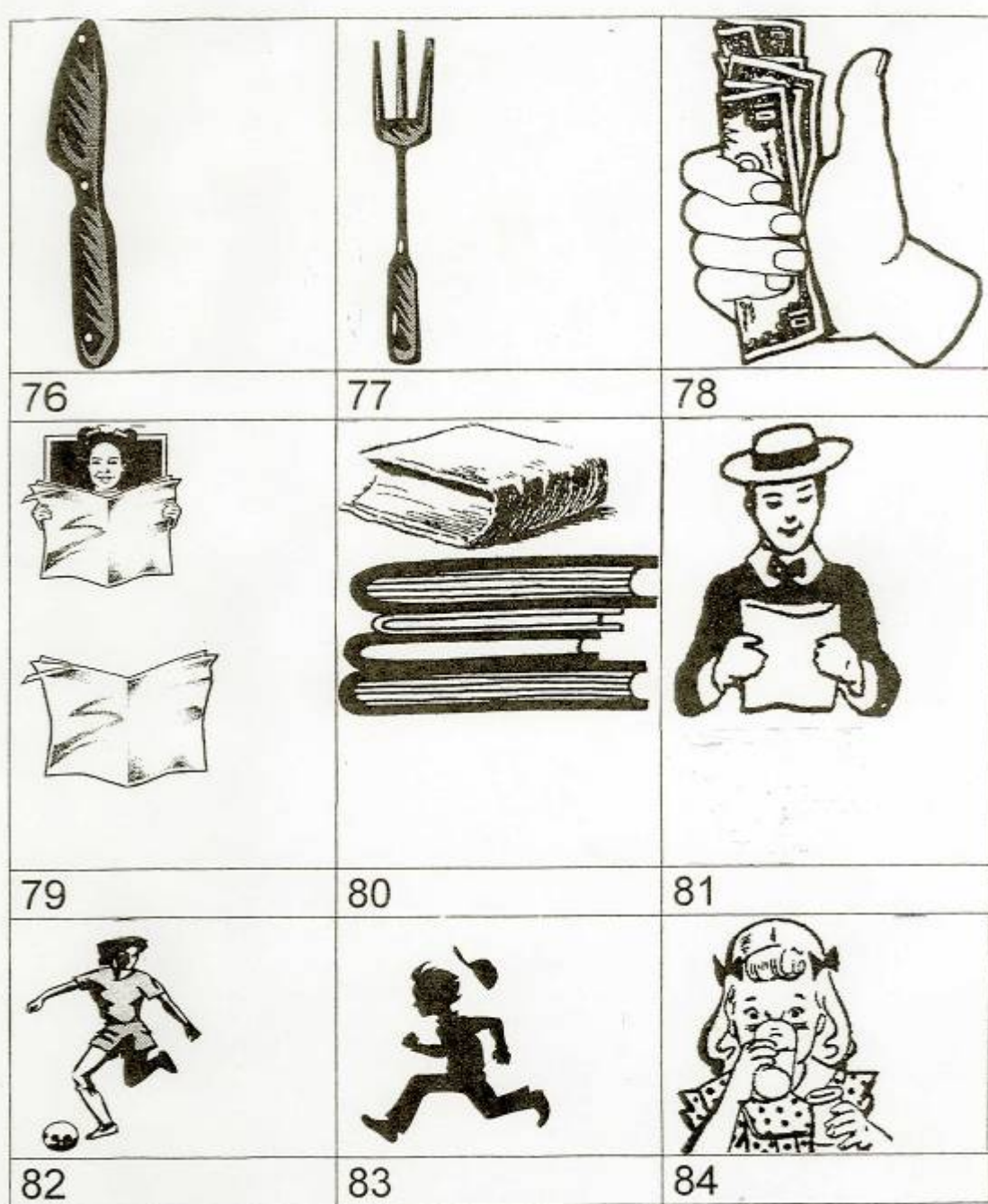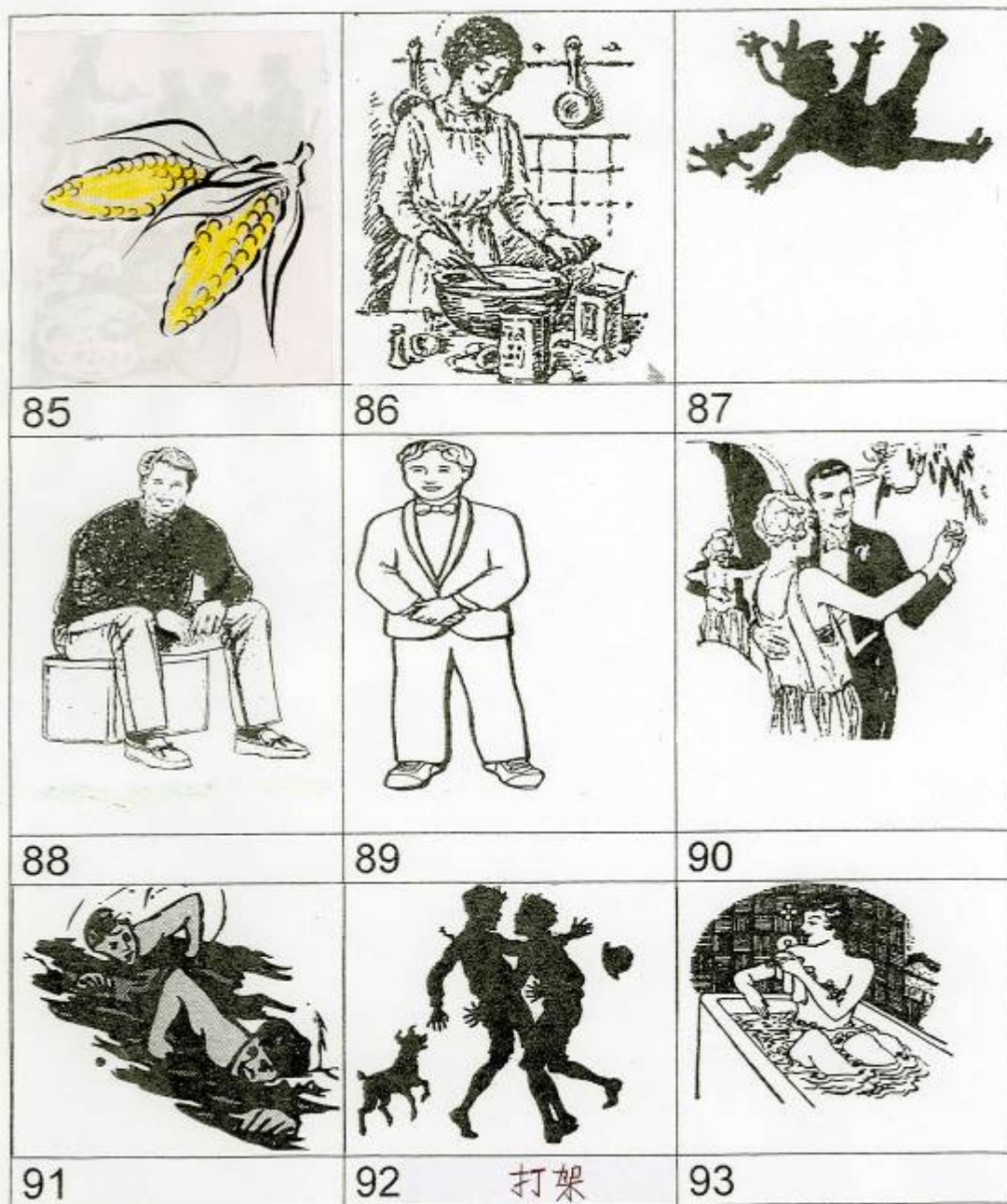
10

11

12

13

14

15

16

17

18

28	29	30
31	32	33
34	35	36
37	38	39

40

41

42

43

44

45

46

47

48

49	50	51
52	53	54
55	56	57

58	59	60
61	62	63
64	65	66

67	68	69
70	71	72
73	74	75

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

91

92　　打架

93

94

95

96

97

98

99

100

101

102
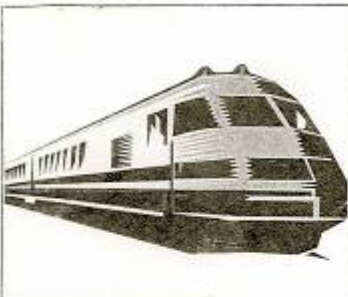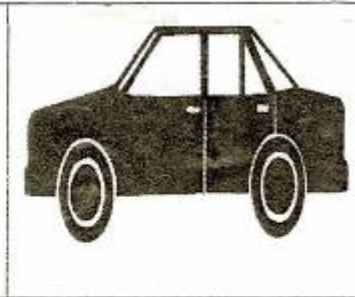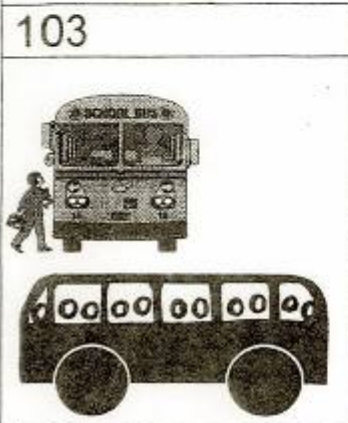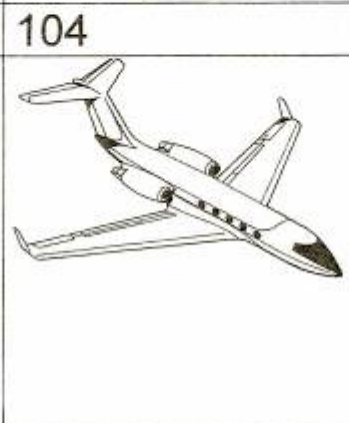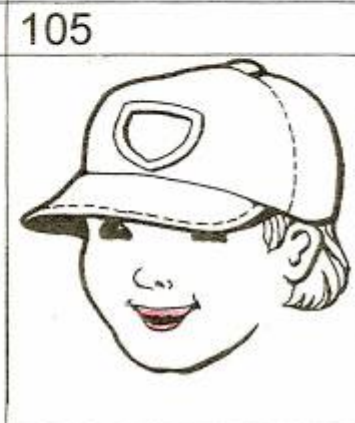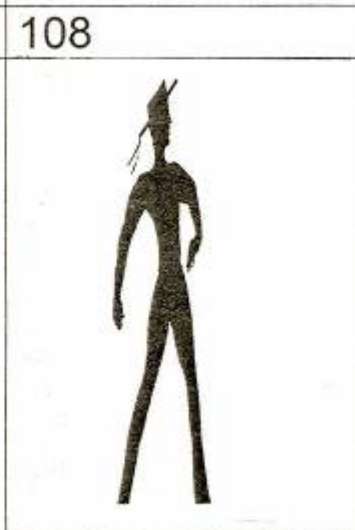
103	104	105
106	107	108
109	110	111

Appendix F: Wordlist, Part 2 – glosses

Sign Language List 2	English	Indonesian
112	earth, land	tuna
113	stone	batu
114	water	air
115	sky	langit
116	wind	angin
117	rain	hujan
118	lightning	kilat
119	rainbow	pelangi
120	day	hari
121	morning	pagi
122	night	malam
123	year	tahun
124	yesterday	kelmarin
125	tomorrow	besok, esok
126	fruit	buah-buahan
127	animal	binatang
128	crocodile	buaya
129	mosquito	nyamuk
130	blood	darah
131	body	badan, tubuh
132	bone	tulang
133	brain	otak
134	heart	jantung
135	back (of body)	belakang badan
136	look at	lihat
137	blind	buta
138	hear	dengar
139	deaf	tuli
140	vomit	muntah
141	cough	batok
142	die	meninggal dunia
143	sleep	tidur
144	forget	lupa
145	dream	bermimpi
146	stay, live	tinggal
147	wait	tunggu
148	ask	bertanya
149	bite	gigit

150	eat	makan
151	throw away	buang
152	steal	curi
153	choose	pilih
154	wash (clothes)	cuci (kain)
155	good (person)	baik (orang)
156	bad	jahat
157	dirty	kotor
158	wet	basah
159	dry	kering
160	tell a lie	bohong
161	angry	marah
162	afraid	takut
163	call	panggil
164	speak	bicara
165	language	bahasa
166	sign	isyarat
167	plant	tanam
168	iron (the metal)	besi
169	repair	membaiki
170	fish (tackle)	pancing
171	kill	bunuh
172	rope, string	tali
173	picture	gambar
174	sew	jahit
175	needle	jarum
176	medicine	obat
177	cooked rice	nasi
178	salt	garam
179	(rice) pot	periuk
180	ashes	debu
181	wood	kayu
182	smoke	asap
183	full (stomach)	kenyang
184	hungry	lapar
185	thirsty	haus
186	bitter	pahit
187	sour	masam, asam
188	sweet	manis
189	ginger	jahe
190	beer, wine	tapai
191	father	bapa
192	mother	emak, ibu

193	husband	suami
194	wife	isteri
195	Brother	abang, adik laki-laki
196	Sister	kakak, adik perempuan
197	Person	orang
198	friend	teman
199	name	nama
200	know (person)	kenal
201	sell	menjual
202	buy	membeli
203	pay	bayar
204	debt, owe	hutang
205	skirt	sarung
206	trousers, pants	celana, seluar
207	pillow	bantal
208	stairs	tangga
209	roof	atap
210	fence	pagar
211	a hundred	seratus
212	a thousand	seribu
213	all	semua
214	count	hitung
215	big	besar
216	little, small	kecil
217	long (thing)	panjang
218	short (thing)	pendek (benda)
219	many	banyak
220	wide	lebar
221	narrow	sempit
222	far	jauh
223	near	dekat
224	sharp	tajam
225	dull	tumpul
226	full (container)	penuh
227	hard	keras
228	heavy	berat
229	hot	panas
230	cold	dingin
231	weak	lemah
232	strong	kuat
233	thick	tebal
234	thin	nipis
235	no, not	tidak

236	how many	berapa
237	what	apa
238	when	kapan
239	where	di mana
240	who	siap

References

Bickford, J. Albert. 2007. Personal communication.

Hurlbut, Hope M. 2007. A Survey of Sign Language in Taiwan. SIL ESR 2008-001

Kamus Sistem Isyarat Bahasa Indonesia. 2001. Edisi Ketiga. Departemen Pendidikan National. Jakarta (Indonesian Sign Language Dictionary). 2001. Third Edition. Jakarta: National Education Department.

Keadaan Sekolah, Siswa dan Guru Kelas, menurut jenjang Pendidikan Sekolah Luar Biasa Tunarungu Swasta (SLB-B). 2001. (Status of Schools, Students and Class Teachers according to the scale of Education for Special Schools for Deaf Scholars)

Lewis, Paul M. Ed. 2009. *Ethnologue: Languages of the world.* Sixteenth Edition. Dallas, Texas: SIL International.

Liddell, Scott K. and Robert E. Johnson. 1989. *American Sign Language: The phonological base.* Gallaudet University Press: Washington, D.C.

Morgan, Gary and Judy Kegl. 2006. *Journal of Child Psychology and Psychiatry and Allied Disciplines,* 47(8) 811–819 (9). Blackwell Publishing.

Mitchell, Ross E. and Michael A. Karchmer. 2005. Parental hearing status and signing among Deaf and Hard of Hearing students. *Sign Language Studies* 5(2) 231–244. Gallaudet University Press: Washington, D.C.

Parkhurst, Steven and Dianne Parkhurst. 1997. Introduction. (Part of the final write-up of the LSE survey). Manuscript.

Parkhurst, Steven and Dianne Parkurst. 1998. Introduction to Sign Language survey. *Notes on Sociolinguistics* 3:215–242. Dallas, Texas: Summer Institute of Linguistics.

Parkhurst, Steven and Dianne Parkhurst. 2007. Personal communication.

Parks, Jason and Elizabeth Parks. 2008. Personal communication.

Schein, Jerome D. (Director), and Marcus T. Delk Jr. 1974. *The Deaf population of the United States.* Silver Spring, MD.: The National Association of the Deaf.

Staley, Beverley. 1998. Report of the Sign Language situation in Canada. Manuscript.

Sutton, Valerie. 1999. *Lessons in SignWriting: Textbook and workbook.* Second Edition. LaJolla, CA: The Deaf Action Committee for SignWriting.

Woodward, James. 1982. Some sociolinguistic problems in the implementation of bilingual education for deaf students. In James Woodward (ed.), *How you gonna get to heaven if you can't talk with Jesus? On depathologizing Deafness.* Silver Spring, MD.: T.J. Publishers.