

CHAPTER 7

LITERACY SURVEY DESIGN

This chapter describes the design of the literacy survey undertaken in March 2007. The survey was designed by the author. The literacy tests and individual literacy questionnaires used in the survey were pilot tested in March 2007. The fieldwork was carried out by a team of two, a Shan facilitator and a Khuen speaker who can read and write Khuen.

7.1 Goal of Survey and Research Questions

The survey was motivated by the high reported literacy rates encountered on the sociolinguistic survey and the desire to probe further the extent to which such reported literacy proficiency could be substantiated by objective testing. In considering the details of this particular survey it is good to bear in mind the broader context, namely the ongoing assessment of the Khuen language development programme.

The following section lists the main goal and the specific research questions. The numbering follows on from the numbering of the goals and research questions on the sociolinguistic survey described in Section 4.1 above.

Goal 5: Assess the current state of literacy in Khuen.

The research questions listed below examine the current state of literacy in Khuen.

Research Question 5.1: What are the patterns of Khuen literacy education for men and for women?

Research Question 5.2: Do Khuen speakers have positive attitudes to Khuen literacy?

Research Question 5.3: What proportion of those who claim to be able to read and write actually are literate?

Research Question 5.4: To what extent do Khuen speakers' assessments of their level of literacy proficiency correlate with test results?

Research Question 5.5: What is Khuen literacy ability currently used for?

The following two sections describe the survey instruments designed to collect relevant information from which to provide at least partial answers to the research questions listed above. The Individual Literacy Questionnaire is described in Section 7.2. Section 7.3 describes the literacy tests and presents a discussion of the issues concerning their use. Section 7.4 describes the protocol for conducting the survey and Section 7.5 describes site and subject selection. Section 7.6 provides a summary of the data collected and Section 7.7 describes methods of analysis used.

7.2 Individual Literacy Questionnaire

The purpose of this questionnaire is to gather information relating to the research questions under investigation in the survey. Related questions are grouped together to make for a logical progression of questions. The sections are described in Table 69 below and the full questionnaire is given in Appendix 10.

Section Title	Summary of Information Elicited
Background Information and Screening	information about the subject and his/her family
Ethnolinguistic Identity	information about distinctive Khuen customs and the subject's attitudes to them
Khuen Literacy Proficiency and Attitudes	information about the subject's literacy history and self-assessment of his/her literacy proficiency in and attitudes towards Khuen

Table 69 Description of Sections on Individual Literacy Questionnaire

Given that one of the research questions involves a comparison of reported literacy proficiency with tested literacy proficiency, the individual literacy questionnaire includes questions about the subject's assessment of their own proficiency in reading, writing and numeracy. The questions about these three areas were asked separately so that the responses could be interpreted without

ambiguity. Subjects were asked not only whether they could read and write but also to assess their proficiency on a three-point scale. Given the fact that numeracy is taught less systematically than reading and writing, the question relating to a subject's numeracy proficiency was presented as a set of statements from which they were asked to select the one that most closely described their numeracy proficiency. Information was also collected on the subject's literacy history including where they learned to read and write and how long they studied.

7.3 Literacy Tests

Separate tests of reading, writing and numeracy were developed for the survey. The design of each test was based on the corresponding test used in the Lao National Literacy Survey (LNLS) (Lao People's Democratic Republic 2004). The order in which tests were presented to subjects, namely reading before writing before numeracy, represents a progression in difficulty. The aim of this was to build subjects' confidence on tests that they are expected to perform better at before tackling tests that they are expected to find more challenging. This is in keeping with van Ginkel (2006:4) who listed 'Order of items' as one of the categories that contribute to ensuring that the test actually measures what it is supposed to measure.

The rubric for the tests is described in the following section. Sections 7.3.2-7.3.4 describe, respectively, the reading, writing and numeracy tests.

7.3.1 Rubric

Questions in each test in the LNLS were presented in order of increasing difficulty, aiming to test skills taught at progressively higher levels of the Lao education system. The LNLS did not publish details of the marking scheme used for individual questions so a scheme was devised for the present study that reflects the relative level of difficulty of each question. The mark scheme was initially based on the level of difficulty implied by the position of the corresponding question in the LNLS test. The marks for certain questions on the numeracy test

were revised in the light of the pilot test of the survey instruments. This highlighted a significant difference between the two surveys: the LNLS was attempting to measure the effectiveness of the Lao education system and so the test questions could be related to the national curriculum. The Khuen literacy survey had no such formal point of reference. Notwithstanding this difference, many commonalities pertain between the two situations.

In designing questions for the tests, three rough levels of difficulty are conceived: Low, Medium and High. Each part of each question is assigned a level of difficulty. A mark commensurate with the level of difficulty and the amount of work required to answer it is allocated for each part of each question. The level of difficulty and the marks allocated for each part of each question on reading, writing and numeracy tests are laid out in Table 70.

Reading Test			Writing Test			Numeracy Test		
Ref.	Level	Mark	Ref.	Level	Mark	Ref.	Level	Mark
2.1	L	4	3.1a	L	1	4.1a	L	1
2.2	L	2	3.1b	L	1	4.1b	L	2
2.3a	M	[6]	3.2	L	4	4.1c	L	1
2.3b		[4]	3.3a	M	2	4.1d	H	4
2.3c		[2]	3.3b	M	2	4.1e	H	4
2.3d		[1]	3.3c	M	2	4.1f	H	4
2.3e		[0]	3.3d	M	2	4.2	M	3
2.4a	H	[8]	3.4a	H	2	4.3	M	3
2.4b		[5]	3.4b	H	3	4.4a	M	3
2.4c		[5]	3.4c	H	1	4.4b	H	
2.4d		[3]	3.4d	H	1	4.5	H	5
2.4e		[0]	3.5	H	9			
2.5a	H	[0]						
2.5b		[4]						
2.5c		[2]						
2.5d		[10]						
Total		30	Total		30	Total		30

Table 70 Mark scheme for literacy tests with difficulty levels for individual questions

The square brackets around some entries in the ‘Mark’ column for the reading test indicate that only one mark is awarded for each of Q2.3-Q2.5. The bold horizontal lines mark a shift to a different level of difficulty. The blank cell in the ‘Mark’ column for Q4.4b of the numeracy test is due to the fact that the question was not

understood and the survey team were not able to explain it sufficiently clearly to give subjects a fair chance of answering it correctly. The marks that had been allocated to this part were therefore redistributed to other questions.

The entries in Table 70 show that the reading and writing tests follow the same pattern in that Q1 and Q2 are both Low level, Q3 is Medium level and Q4 and Q5 are High level. This pattern is the same as that used in the LNLS (2004:7). The numeracy test shows a trend from Low level to High level which is ‘interrupted’ by the three High level parts 4.1d-4.1f. These parts are judged to be High level because they involve multiplication and division – skills often not taught in basic education in a Khuen temple.

As the final row of Table 70 shows, each test had a maximum score of 30 marks. The rubric for converting test scores into a level of literacy proficiency for each individual is laid out in Table 71.

Level	Definition
Basic	if a person gets a score of at least 8 in every test , then that person is deemed as having ‘basic literacy skills’.
Functional	if a person gets a score of at least 14 in every test , then that person is deemed as having ‘functional literacy skills’.
Sustained functional	if a person gets a score of at least 22 in every test , then that person is deemed as having ‘sustained functional literacy skills’ (or sometimes mentioned as ‘self-learning level’.)

Table 71 Definitions of literacy levels in Khuen Literacy Survey

The justification for the thresholds specified in Table 71 is the way the marking scheme relates to the levels of difficulty of individual questions and their constituent parts. To achieve a score of 8 marks or more on the reading and writing tests at least some marks must be obtained from questions of Medium or High levels of difficulty since a maximum of 6 marks are available from Low level questions. To achieve a score of 14 marks or more on the reading test at least some marks must be obtained from High level questions. It is possible to achieve a score of 14 marks on the writing test by perfect answers to all the Low and Medium level questions – any loss of marks in these questions mean that marks must be obtained from High level questions to compensate. To achieve a score of

22 marks on reading and writing tests at least some marks must be obtained from High level questions.

On the numeracy test at least some marks must be obtained from Medium or High level questions in order to achieve a score of 8 marks or more. To achieve a score of 14 marks or more at least one mark must be obtained from High level questions. On the surface, then, it is more difficult to reach the thresholds for functional or sustained functional levels of literacy on the numeracy test than on the reading or writing tests. However, it should be noted that subjects were requested to show their working as well as their final answers: marks were awarded for the approach taken as well as the final answers. It is thus possible to gain marks for a partial answer to a particular question, making it more likely that subjects will be able to obtain at least some marks from more difficult questions.

In order to ensure that the test gives as true a measure as possible of the subject's literacy proficiency, it is important that the content of the questions is familiar to the subjects (van Ginkel 2006:4). This includes the wording of questions, the topics about which questions are asked and the skills being tested. Efforts were therefore made to ensure that the questions were on topics relevant to subjects' common experience. For example, Q2.3 of the reading test involves an envelope with the names and addresses of sender and intended recipient both being in places that subjects would know of, namely Keng Tung and the state capital Taunggyi. The envelope design was actually taken from a widely used Khuen textbook⁴², thus ensuring its compatibility with what students are taught.

7.3.2 Reading test

This section shows the English version of the reading test complete with marking scheme. The actual Khuen version used on the survey did not display the marking scheme. The Khuen version is given in Appendix 10. Note that the response

⁴² ဝေပျနတဘသဘဉ်းမိ နီ(၂) [Tai Khuen Language Textbook Level 2.] (No name 2004)

format is oral for all of the questions. In other words since subjects do not need to write their answers, the test is focused on testing the subjects' reading skills rather than their writing skills as well. This is in keeping with van Ginkel (2006:4) who listed 'response format' as one of the categories that contribute to ensuring that the test actually measures what it is supposed to measure.

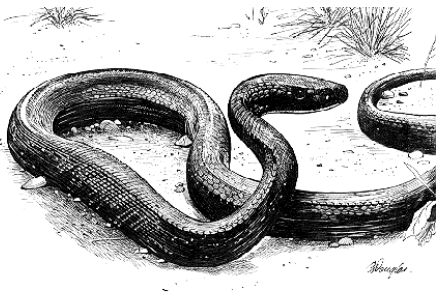
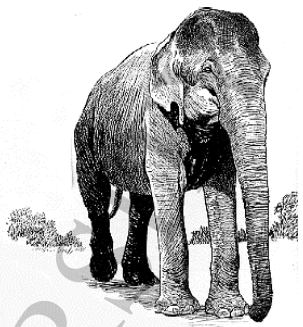

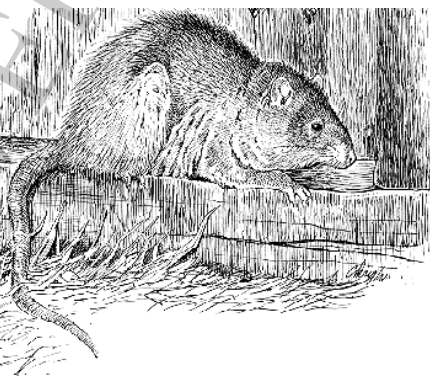
There are two further points worth noting about individual questions on the test. Firstly if the subject answers correctly in Q2.3 the interviewer is required to make a judgement as to whether the subject read easily or read with difficulty. This introduces a subjective element into the testing process although the effect of this subjectivity is very limited as the difference between the two options is only 2 marks. The second thing is that in Q2.5a and Q2.5c the word 'advertisement' is used but there is no standardised Khuen translation for this concept. The survey team often used a Burmese loanword transcribed in Khuen as ဘဒ္ဒိ [ʔa³³do:⁴⁴] to clarify the meaning – the word printed in the test [ဝဋ်ဝဲ [ba³jo:k²²] having come from Thai. Since Burmese is not widely understood among subjects, 2 marks were allocated to 2.5c to allow for the possibility that the real sense of the Khuen translation is not as clear as the English version.

The full English version is given on the following three pages.

KHUEN LITERACY SURVEY

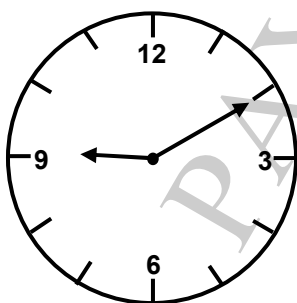
PART 2: Tests for reading skills

2.1 Choose the word that matches the picture.

	rat elephant	
	tiger snake	

[4 marks]

2.2 What time is shown on this clock?



[2 marks]

2.3 Please read this envelope and tell me who sent it and who will receive it.

<p>From /</p> <p style="margin-left: 40px;">Nang Kesi High School No. -1 Taunggyi City</p> <p style="text-align: right; margin-right: 40px;">Sent to /</p> <p style="text-align: right; margin-right: 40px;">Caj Yii Bun No 22 Ceng Laan Village Setan Awn Road District 3 Keng Tung Township</p>	<div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> STAMP </div>
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The interviewer chooses the statement that best describes the answer

- | | |
|------------------------------------------------------------------------|-----------|
| a. Subject read easily and answered correctly | [6 marks] |
| b. Subject read with difficulty but answered correctly | [4 marks] |
| c. Subject could read but answered some things incorrectly | [2 marks] |
| d. Subject could read but gave an answer that was completely incorrect | [1 mark] |
| e. Subject could not read the envelope | [0 marks] |

2.4 Please read the information below.

Suppose you want to travel by bus from Keng Tung and you want to arrive at Tachileik by 12:30 pm.

- a. What time must you get on the bus?
- b. How much will the ticket cost?

Departures Notice			
Buses depart from Keng Tung every day at the times shown below.			
To	Departure Time	Arrival Time	Ticket Price
Murung Yang	07:30 am	12:30 pm	4500 Kyat
Tachileik	08:00 am	12:30 pm	5000 Kyat
Murung La	09:30 am	01:00 pm	4000 Kyat
Murung Peng	10:00 am	11:30 pm	1500 Kyat
Tachileik	01:30 pm	06:00 pm	4800 Kyat

The interviewer chooses the statement that best describes the answer

- a. Both time and cost answered correctly [8 marks]
- b. Time answered correctly but cost incorrect [5 marks]
- c. Cost answered correctly but time incorrect [5 marks]
- d. Subject could read but answered both time and cost incorrectly [3 marks]
- e. Subject could not read [0 marks]

2.5 Please read the text below.

Mothers of small children - Please Read This

Bottle milk is dangerous – it can kill babies. Breast milk is the best for your baby.

You should give your child only breast milk until your child is 4 months old.

During the period of breastfeeding you should eat enough vegetables, beans, fish, egg, and meat.

What is this text about? Choose the statement below that is most true about this passage.

- a. It is an advertisement for selling milk powder [0 marks]
- b. It is a lesson at primary school [4 marks]
- c. It is an advertisement for selling breast milk [2 marks]
- d. It is important advice for mothers with infants [10 marks]

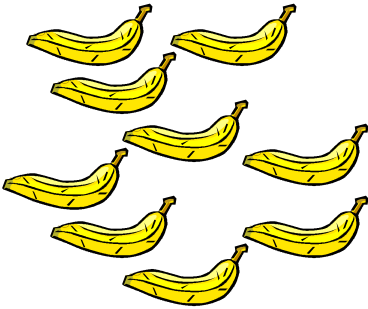
7.3.3 Writing test

This section shows the English version of the writing test complete with marking scheme. The actual Khuen version used on the survey did not display the marking scheme. The Khuen version is given in Appendix 10. Note that the answers given to Q3.3 can be compared with the answers to Q3, Q10 and Q19 in Part 1 of the interview, that is, the Individual Literacy Questionnaire. In other words it is possible to check whether the written answers agree with the verbal answers to these same questions. Also in Q3.4, the date of birth must tally with the age of the child.

KHUEN LITERACY SURVEY

PART 3: Tests for writing skills

3.1 How many bananas are there in the picture below? Please write the answer in numbers and in words.

	<p>In numbers _____ [1 mark]</p> <p>In words _____ [2 marks]</p> <p style="text-align: right;">[Total 3 marks]</p>
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3.2 Please write a sentence about your favourite fruit (name, colour and taste.)
[4 marks]

3.3 Please write your name and address (village, village tract, and township)

Name		[2 marks]
Village		[2 marks]
Village tract		[2 marks]
Township		[2 marks]
		[Total 8 marks]

3.4 Suppose you have a son who will start school for the first time. Please fill in the following form for your son.

New Student Form								
Name of child								[2 marks]
Date of birth of child		Day		Month		Year		[3 marks]
Age of child								[1 mark]
Is child Male or Female?	<input type="checkbox"/>	Male			<input type="checkbox"/>	Female		[1 mark]
								[Total 7 marks]

3.5 Please write a letter to the person who taught you to read and write in Khuen, thanking them for helping you.
[8 marks]

7.3.4 Numeracy test

This section shows the English version of the numeracy test complete with marking scheme. The actual Khuen version used on the survey did not display the marking scheme. The Khuen version is given in Appendix 10. Note that Q4.0 is not testing subjects' proficiency but simply collecting information about which kind of numbers they are familiar with. No marks are awarded to this question. The number of marks for Q4.4b was decreased from 4 to 0 in light of the fact that the survey team reported that subjects did not understand the question.

KHUEN LITERACY SURVEY

PART 4: Tests for numeracy skills

4.0 Which numbers do you like to use best?

- Khuen general purpose (၀၀၂၃၄၅၆၇၈၉)
- Arabic (0123456789)
- Can use either type.

4.1 Please do the following calculations

		Answer
a	$7 + 12 =$	
b	$54 + 23 + 112 =$	
c	$12 - 7 =$	
d	$357 / 7 =$	
e	$112 \times 54 =$	
f	$(12 / 3 + 4) \times (7 - 2) =$	

[1 mark]

[2 marks]

[1 mark]

[4 marks]

[4 marks]

[4 marks]




[Total 16 marks]

4.2 50 years ago, my grandfather planted 12 mango trees in our garden. My father planted 10 additional mango trees 20 years ago. However, 5 of the mango trees planted by my grandfather and 2 of the trees planted by my father died during the summer 2 years ago. So, I planted 9 young mango trees last year.

How many trees are there in my garden now?

[3 marks]

4.3 Suppose you buy 3 pieces of water pipe as shown in the picture below.

	8	inches
	10	inches
	2	feet

What is the total length (in feet and inches) of water pipe you will buy? [3 marks]

4.4 Suppose you earn 7000 Kyat a day. If you work 6 days a week,

a. How much do you earn in 2 weeks?

[3 marks]

b. What is your average daily income?

[0 marks]

[Total 3 marks]

4.5 Suppose you borrowed 100,000 Kyat from your neighbour at a monthly interest rate of 3%. How much will you have to pay back in total, including the principal and interest, if you return the money at the end of 2 months after you took the loan?

[5 marks]

7.4 Protocol for Collecting Data

The nature of the data being collected from each subject required both the interviewer and the subject to write answers. For this reason an answer booklet was prepared for each individual so that all data relating to a particular individual was together in a bound booklet. The interviewer first asked the questions on the Individual Literacy Questionnaire, writing the answers in the answer booklet. This is Part 1 of the overall interview. Then the subject was given the question booklet containing all three literacy tests. Part 2 of the overall interview was the reading test. The interviewer wrote the answers to the reading test in the answer booklet. The interviewer then gave the answer booklet to the subject who wrote the answers to Parts 3 and 4 of the interview which were respectively the writing test and the numeracy test.

7.5 Sampling Design

As this was a follow-up study, the general design was largely the same as for the sociolinguistic survey described in Chapter 4 above. The following sections give more details of how sites and subjects were selected.

7.5.1 Site selection

As this was a follow-up study, the same sites as the sociolinguistic survey were selected. Since Yang Lorh provided ambiguous data in the sociolinguistic survey, it was not included among the sites for the present survey. Wan Jorhn was not included because no data concerning literacy was obtained for Wan Jorhn in the sociolinguistic survey making it inappropriate to include Wan Jorhn in the follow-up survey. This means that five villages were included: Pa Jahm; Yang Kway; Wan Jay; Wan Kahng; Murng Jem.

7.5.2 Subject selection

In each location a quota sample of twelve subjects was taken. Two subjects in each of six age-gender categories were selected as described in Table 72.

		Age			Total
		15-30	31-45	46+	
Gender	Male	2	2	2	6
	Female	2	2	2	6
Total		4	4	4	12

Table 72 Sampling design for a single survey site

The survey team made a preliminary visit to each village where they contacted the village chief and explained the purpose of the survey. The team were generally well received and found the village chiefs most helpful. The team explained that they would like to interview people in the various age-gender categories and the village chief arranged for individuals to come and take part in the survey.

On the sociolinguistic survey subjects were required to be fluent speakers of Khuen. For the literacy survey subjects were also required to report that they could read and write Khuen. Q24-Q26 of the Individual Literacy Questionnaire were therefore used to screen subjects for these attributes.

One possible approach to subject selection for a follow-up study would be to interview exactly the same subjects from the previous survey. This would have the advantage of consistency and the follow-up study would essentially be a second phase of data collection from the same sample. It was decided however that to try to contact all of the subjects from the sociolinguistic survey would place an unnecessary demand on the survey team. The likelihood of finding all of the subjects at home when the survey team happened to call is estimated to be low – especially since a year had passed since the fieldwork for the sociolinguistic survey had been conducted. Because of the extra attributes used for screening on the literacy survey more subjects would have been needed on most age-gender categories to provide evidence of literacy ability in each village. Given the time constraints on the survey team and in the interests of simplicity it was therefore decided to select subjects for the literacy survey without reference to whether or not they had participated on the sociolinguistic survey. It is therefore likely that some individuals who participated in the sociolinguistic survey will also participate in literacy survey.

7.6 Summary of Data Collected on Literacy Survey

Having described the selection of survey sites and subjects in the previous two sections, in this section the results of the data collection process are described. Table 73 presents a summary of the total body of data collected from all of the survey sites on both the sociolinguistic and literacy surveys.

Village Tract Reference	Name of Village Tract	Name of Village in Sample	Data Collected on Sociolinguistic Survey			Data Collected on Literacy Survey
1	Yang Lorh	Yang Lorh	KIQ; WL; ISQ (x 12)			
2	Dory Lohng					
3	Wat Sahw					
4	Kaht Taw	Pa Jahm	KIQ; WL; ISQ (x 12)			ILQ/tests (x 12)
5	Kart Thay					
6	Yang Kehng	Wan Jorhn	KIQ; WL			
7	Kaht Fah					
8	Murng Lang	v. Yang Kway	KIQ; WL; ISQ (x 12)			ILQ/tests (x 12)
		vi. Wan Jay	KIQ; WL; ISQ (x 12)			ILQ/tests (x 12)
9	Murng Lahp	Wan Kahng	KIQ; WL; ISQ (x 12)			ILQ/tests (x 12)
10	Murng Jem	Murng Jem	KIQ; WL; ISQ (x 12)			ILQ/tests (x 12)
Total Data Collected			KIQ	WL	ISQ	ILQ/tests
			7	7	72	60

Table 73 Summary of data collected on sociolinguistic and literacy surveys

In Table 73 ILQ/tests denotes the combination of the Individual Literacy Questionnaire and the three literacy tests. Every subject who answered the ILQ also attempted the reading, writing and numeracy tests. As can be seen in the table, the survey team collected ILQs in five villages. Thus a total of $5 \times 12 = 60$ ILQs were collected together with 60 sets of reading, writing and numeracy tests.

7.7 Methods of Analysis

In this section methods used to analyse the data are described and a priori criteria are specified for evaluating the information elicited by each of the survey instruments.

7.7.1 Analysis of questionnaire responses

Frequency tables were made for each question summarising the answers given. The results were interpreted qualitatively with respect to each of the specific research questions as well as the broad goals of interest in the study. Results that would indicate widespread use of Khuen literacy skills would be the high levels of positive responses to Q32a 'Have you read any Khuen materials in the last 30 days?' Furthermore, the greater the diversity of materials read the stronger the evidence that Khuen literacy skills are important in everyday life in Khuen communities. If the converse were true, namely that only a narrow range of materials are commonly read, then this might indicate that the range of materials available is limited and hence signal a need to be addressed if Khuen literacy is to be further promoted.

Responses that would indicate positive attitudes towards Khuen literacy would be high rates of positive responses to Q37 and Q38. Positive attitudes towards Khuen literacy in the present generations make it more likely that future generations will be encouraged to develop Khuen literacy skills also.

7.7.2 Analysis of literacy test results

The reading, writing and numeracy tests were marked according to the mark scheme described in Section 7.3. Based on the criteria in Section 7.3.1 each individual subject was classified as having a particular level of literacy skills: illiterate; basic; functional; or sustained functional. The tested literacy levels were compared with the reported literacy levels. A small discrepancy between reported and tested literacy levels would indicate that subjects generally have an accurate perception of their literacy proficiency. It would also support the use of separate questions concerning proficiency in reading, writing and numeracy. Numerical data was plotted and analysed using Minitab Statistical Software (Minitab Inc.). Richard Lowry's VassarStats online facility was used to compute confidence intervals for estimates of literacy rates.