

APPENDIX A

A1 The 1st Lesson Plan for the Control Class

A2 The 1st Lesson Plan for the Experimental Class

A3 The 2nd Lesson Plan for the Control Class

A4 The 2nd Lesson Plan for the Experimental Class

A5 The 3rd Lesson Plan for the Control Class

A6 The 3rd Lesson Plan for the Experimental Class

APPENDIX A1

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Theme	: Parts of the body and verbs
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs.

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

“Good morning students. How are you today ? We will learn some vocabulary today about parts of the body.”

B. Pre-instructional Activities

Answer the following questions.

- * Can you mention the parts of your body ?

(Bisakah kalian menyebutkan anggota tubuh kalian?)

C. Whilst-instructional Activities

1. The teacher gives the list of vocabulary in the board and ask the students to copy it.
2. The teacher clearly mentions the vocabulary one by one with the translation.

Head	: kepala	Hand	: tangan
Shoulder	: bahu	Feet	: kaki
Knee	: lutut	Happy	: gembira
Toe	: jempol kaki	Sad	: sedih
Eye	: mata	Clap	: bertepuk tangan
Ear	: telinga	Stomp	: menjejak
Mouth	: mulut	Blink	: berkedip
Nose.	: hidung	Nod	: mengangguk

D. Post-instructional Activities

The teacher said some words in the native language and ask the students to mention the English words.

IV. Teaching Learning Activities

The methods used are Translation.

APPENDIX A2

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Theme	: Parts of the body and verbs
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs.

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

“Good morning students. How are you today ? We will learn some vocabulary today about parts of the body.”

B. Pre-instructional Activities

Answer the following questions.

- * Can you mention the parts of your body ?

(Bisakah kalian menyebutkan anggota tubuh kalian?)

C. Whilst-instructional Activities

1. The teacher shows the picture of the parts of the body.
 2. The teacher asks the students to TOUCH their parts of the body that shown in the picture.
 3. The teacher asks the students to POINT their parts of the body that shown in the picture.
- (* For wordlist B, the teacher acts the verbs)
4. The teacher clearly mentions the vocabulary one by one.
 5. The teacher asks the students to repeat with the right pronunciation.
 6. The teacher teaches the rhyme.
 7. The teacher and the students sing the rhyme with action.

A	B
<i>Vocabulary :</i> Head, Shoulder, Knee, Toe, Eye, Ear, Mouth, Nose.	<i>Vocabulary :</i> Happy, Clap, Hands, Stomp, Feet, Blink, Eyes, Nod, Head.
<i>Rhyme :</i> Head, shoulders, knees, and toes (knees and toes)2x Head, shoulders, knees, and toes, eyes, ears, mouth, nose.	<i>Rhyme :</i> (If you happy and you know it <u>clap your hands</u>)2x If you happy and you know it and you really ought to show it If you happy and you know it <u>clap your hands</u> * <u>stomp your feet</u> * <u>blink your eyes</u> * <u>nod your head</u>

D. Post-instructional Activities

GAMES

- Each students should prepare a paper and a pen.
- The teacher chooses a students to come in front.
- The teacher whispers some verbs to do or some part of the body to be pointed to the chosen student.
- The other students write the word.

IV. Teaching Learning Activities

The methods used are Nursery Rhymes and Total Physical Response.

V. Source and Material

Media : the picture of parts of the body, handouts.

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

“Good morning students. How are you today ? We will learn some more Vocabulary about verbs.”

B. Pre-instructional Activities

Answer the following questions.

- * Do you still remember our previous lesson?

(Apakah kalian masih ingat pelajaran kita minggu lalu?)

C. Whilst-instructional Activities

1. The teacher gives the list of vocabulary in the board and ask the students to copy it.
2. The teacher clearly mentions the vocabulary one by one with the translation.

Right	: kanan
Left	: kiri
Raise hand	: mengangkat tangan
Wave hand	: melambai
Jump	: melompat
Dance	: menari
Sing	: menyanyi
Cry	: menangis

D. Post-instructional Activities

The teacher said some words in the native language and ask the students to mention the English words.

IV. Teaching Learning Activities

The methods used are Translation.

APPENDIX A4

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Theme	: Parts of the body and verbs
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs.

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

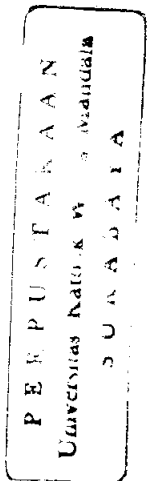
“Good morning students. How are you today ? We will learn some vocabulary today about parts of the body.”

B. Pre-instructional Activities

Answer the following questions.

- * Do you still remember our previous lesson?

(Apakah kalian masih ingat pelajaran kita minggu lalu?)



C. Whilst-instructional Activities

1. The teacher shows the picture of the parts of the body.
 2. The teacher asks the students to TOUCH their parts of the body that shown in the picture.
 3. The teacher asks the students to POINT their parts of the body that shown in the picture.
- (* For wordlist B, the teacher acts the verbs)
4. The teacher clearly mentions the vocabulary , one by one.
 5. The teacher asks the students to repeat with the right pronunciation.
 6. The teacher teaches the rhyme.
 7. The teacher and the students sing the rhyme with action.

TPR study :	Nursery Rhyme :
Turn right! Turn left!	Raise your right hand,
Raise your hand!	Raise your left hand,
Wave your hand!	Wave your hand 2x
Jump!	Jumping 3X
Dance!	Dancing 3X
Sing!	Sing, sing, sing
Sit down!	Don't you cry

D. Post-instructional Activities

GAMES

- Each students should prepare a paper and a pen.
- The teacher chooses a students to come in front.
- The teacher whispers some verbs to do by the chosen student
- The other students write the word.

IV. Teaching Learning Activities

The methods used are Nursery Rhymes and Total Physical Response.

V. Source and Material

Media : the picture of parts of the body, handouts.

APPENDIX A 5

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

“Good morning students. How are you today ? We will learn some more vocabulary about verbs.”

B. Pre-instructional Activities

Answer the following questions.

- * Do you still remember our previous lesson?

(Apakah kalian masih ingat pelajaran kita minggu lalu?)

C. Whilst-instructional Activities

1. The teacher gives the list of vocabulary in the board and ask the students to copy it.
2. The teacher clearly mentions the vocabulary one by one with the translation.

Kick	: menendang
Run	: berlari
Run in place	: lari di tempat
Walk	: berjalan
Forward	: maju
Backward	: mundur
Stand up	: berdiri
Sit down	: duduk

D. Post-instructional Activities

The teacher said some words in the native language and ask the students to mention the English words.

IV. Teaching Learning Activities

The methods used are Translation.

APPENDIX A6

Educational level	: Elementary School
Subject	: English
Skill	: Vocabulary acquisition
Theme	: Parts of the body and verbs
Grade / semester	: 3 / 2
Time	: 1 x 45'

I. General Instructional Objective

- Students are able to acquire the vocabulary related to parts of the body and verbs.

II. Specific Instructional Objectives

- Students know the spelling of the words correctly
- Students can pronounce the words correctly
- Students can use the words in a sentence

III. Teaching Materials

A. Greeting

“Good morning students. How are you today ? We will learn some vocabulary today about parts of the body.”

B. Pre-instructional Activities

Answer the following questions.

- * Do you still remember our previous lesson?

(Apakah kalian masih ingat pelajaran kita minggu lalu?)

C. Whilst-instructional Activities

1. The teacher shows the picture of the parts of the body.
 2. The teacher asks the students to TOUCH their parts of the body that shown in the picture.
 3. The teacher asks the students to POINT their parts of the body that shown in the picture.
- (* For wordlist B, the teacher acts the verbs)
4. The teacher clearly mentions the vocabulary one by one.
 5. The teacher asks the students to repeat with the right pronunciation.
 6. The teacher teaches the rhyme.
 7. The teacher and the students sing the rhyme with action.

TPR study :	Nursery Rhyme :
Kick your right foot!	Kick your right foot,
Kick your left foot!	Kick your left foot,
Run!	Run in place 2x
Run, faster!	Walking 2X forward
Walk forward!	Walking 2X backward
Walk backward!	Standing up,
Stand Up!	Sitting down
Sit Down!	

D. Post-instructional Activities

GAMES

- Each students should prepare a paper and a pen.
- The teacher chooses a students to come in front.
- The teacher whispers some verbs to do by the chosen student
- The other students write the word.

IV. Teaching Learning Activities

The methods used are Nursery Rhymes and Total Physical Response.

V. Source and Material

Media : the picture of parts of the body, handouts.

APPENDIX B

B1 The Pilot Test

B2 The Result of the Pilot Test

B3 The Statistical Analysis of the test items

B4 The Revised Test Items

B5 The List of Pilot Group Report

B6 The Statistical Analysis of Group Equivalence

APPENDIX B1

Name : _____ Class/No : _____

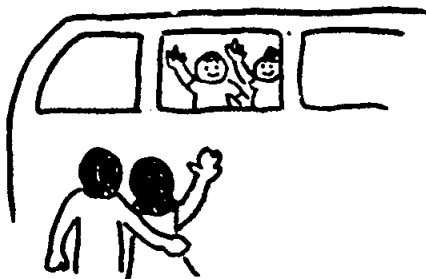
1. My mother's is beautiful.

- a. ears
- b. nose
- c. head
- d. eyes



2. The children in the bus are to their parents.

- a. clapping
- b. waving
- c. standing
- d. sitting



3. Budi and Amir are to the class because they are late.

- a. walking
- b. jumping
- c. standing
- d. running



4. The children are over the block.

- a. kicking
- b. jumping
- c. walking
- d. running



5. Siti and Anna are in the park.

- a. walking
- b. running
- c. jumping
- d. kicking



6. Toni's sock is torn. His is coming out.

- a. toe
- b. knee
- c. finger
- d. foot



7. Wash you before you eat!

- a. body
- b. face
- c. hands
- c. foot



We use our to smell.

- a. mouth
- b. nose
- c. ears
- d. eyes



We use our to listen.

- a. mouth
- b. nose
- c. ears
- d. eyes



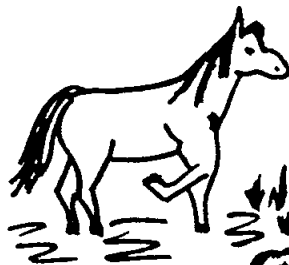
0. We use our to eat.

- a. mouth
- b. nose
- c. ears
- d. eyes



1. The horse is its feet.

- a. blinking
- b. jumping
- c. clapping
- d. stomping



2. The children in the class are singing and

- a. blinking
- b. jumping
- c. clapping
- d. stomping



3. Rudi is his eyes because the light is too bright.

- a. blinking
- b. jumping
- c. clapping
- d. stomping



4. If we are agree, we will our head.

- a. shake
- b. wave
- c. nod
- d. blink



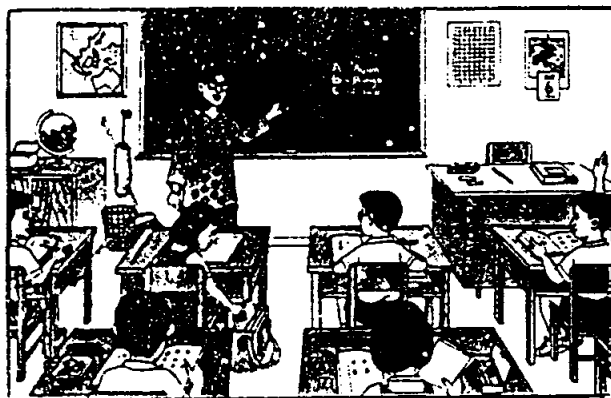
5. Toni is the ball into the yard.

- a. playing
- b. stomping
- c. kicking
- d. raising



6. The children are in the classroom.

- a. standing
- b. sitting
- c. raising
- d. sleeping

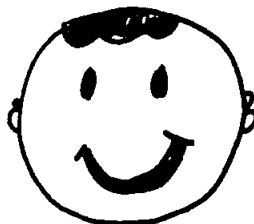


7. The teacher is in the classroom.

- a. standing
- b. sitting
- c. raising
- d. sleeping

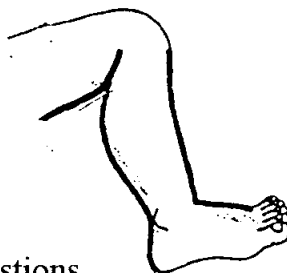
8. If you are you will smile.

- a. sad
- b. angry
- c. hungry
- d. happy



9. My father's is painful.

- a. knee
- b. foot
- c. hand
- d. toe



10. Please your hands if you have any questions.

- a. wave
- b. clap
- b. stomp
- d. raise



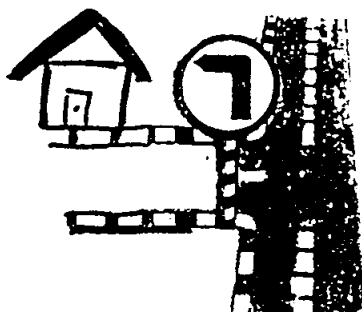
11. My is dizzy.

- a. body
- b. hands
- c. head
- d. face



22. My house is in the side.

- a. middle
- b. right
- c. left
- d. way



23. The people are in the party.

- a. dancing
- b. standing
- c. sitting
- d. moving



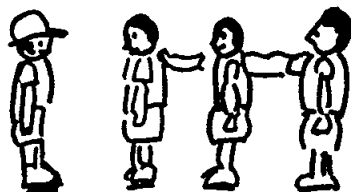
24. Ani is because she don't have any friends.

- a. happy
- b. sad
- c. cheerful
- d. angry



25. The children are holding their friends' and standing in line.

- a. body
- b. hands
- c. shoulders
- d. arms



26. Rina is because she just fell down.

- a. blinking
- b. crying
- c. singing
- d. dancing



27. Dina is in front of the class.

- a. blinking
- b. crying
- c. singing
- d. dancing



28. We eat with our hand.

- a. right
- b. left
- c. middle
- d. finger

Daftar Nilai Pilot Test
SDK Mater Dei Kelas III

No	X	Nilai
1	20	71
2	20	71
3	20	71
4	18	64
5	18	64
6	17	61
7	16	57
8	15	54
9	15	54
10	15	54
12	14	50
13	14	50
14	14	50
15	13	46
16	13	46
17	12	43
18	12	43
19	12	43
20	11	39
21	11	39
22	11	39
23	10	36
24	10	36
25	10	36
26	10	36
27	9	32
28	9	32
29	9	32
30	9	32
31	8	29
32	7	25
33	6	21
34	3	11

Rata-rata : 44

X : Jumlah jawaban benar

Nilai = X x 3.6

APPENDIX B3

CALCULATION OF DISCRIMINATION AND DIFFICULTY INDEX

		ITEM																												SCORE
NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
1		1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	1	1	1	0	0	1	0	1	1	1	1	1	0	26
22		1	0	1	1	1	0	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	0	1	1	1	0	26
32		1	0	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	0	0	1	0	1	1	0	26
10		1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	1	0	1	1	0	18
30		1	0	1	1	1	0	1	1	1	1	1	1	0	0	0	1	1	1	0	0	0	1	0	1	1	1	1	0	18
31		1	0	0	1	0	0	1	1	1	1	1	0	0	0	0	1	1	1	1	0	1	0	1	1	1	1	1	0	17
25		1	0	1	1	0	0	1	1	1	1	0	0	1	0	0	1	1	1	1	0	1	0	1	0	1	1	1	0	16
2		1	1	0	1	1	0	0	1	1	1	0	0	1	0	0	1	1	0	1	1	0	0	0	0	1	1	1	0	15
20		1	0	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	1	1	0	1	0	1	0	0	1	1	0	15
23		1	1	1	1	1	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	15
9		1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	1	0	0	1	1	0	14
16		1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	0	1	1	1	0	1	1	14
18		1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	14
15		1	0	1	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	1	0	1	1	0	0	13
27		1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	1	1	0	13
CT		15	3	13	11	12	4	13	15	14	15	8	4	4	0	0	11	12	10	6	4	10	0	12	6	10	14	14	2	
ER (U)																														
11		0	0	1	1	0	0	1	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	1	1	0	11
12		1	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	1	0	11
17		1	0	1	0	1	0	1	1	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	11
4		1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	0	10
6		1	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	10
24		1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	1	1	0	10
26		1	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	1	0	10
5		1	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	0	0	0	1	0	1	0	9
7		1	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	1	0	9
13		0	0	1	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	9
21		1	0	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	9
29		0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	8
19		1	0	1	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	7
14		1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	6
33		1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
CT		12	6	5	3	6	2	10	13	7	12	2	1	1	0	0	4	4	5	2	6	7	6	10	6	4	11	12	0	
ER (L)																														
DP =																														
LYN		0.2	0.2	0.5333	0.5333	0.4	0.1333	0.2	0.1333	0.4667	0.2	0.4	0.2	0.2	0	0	0.4667	0.5333	0.3333	0.2667	0.2667	0.2	0	0.1333	0.4	0.4	0.2	0.1333	0.1333	
terp.		sat	sat	Good	Good	Good	Poor	sat	Poor	Good	sat	Good	sat	sat	Poor	Poor	Good	Good	sat	sat	sat	sat	Poor	Poor	Good	Good	sat	Poor	Poor	
ECTLY		27	3	18	14	18	6	23	28	21	27	10	5	5	0	0	15	16	15	8	4	17	6	22	6	14	25	26	2	
TOTAL		0.9	0.1	0.6	0.4667	0.6	0.2	0.7667	0.9333	0.7	0.9	0.3333	0.1667	0.1667	0	0	0.5	0.5333	0.5	0.2667	0.1533	0.5667	0	0.7333	0.2	0.4667	0.8333	0.8667	0.0667	
terp.		Easy	Dif	Mod	Mod	Mod	Dif	Easy	Easy	Easy	Easy	Mod	Dif	Dif	Dif	Dif	Mod	Mod	Mod	Dif	Dif	Mod	Dif	Easy	Dif	Mod	Easy	Easy	Dif	

Criteria of Discrimination Power

Criteria of Difficulty Index

0.20 : Poor
0.40 : Satisfactory
0.70 : Good
1.00 : Excellent

0.00 - 0.30 : Difficult
0.30 - 0.70 : Moderate
0.70 - 1.00 : Easy

CALCULATION FOR RELIABILTY KR-21

NO.	X	X ²	NO.	X	X ²	NO.	X	X ²
1	20	400	16	14	196	31	17	289
2	15	225	17	11	121	32	20	400
3	12	144	18	14	196	33	3	9
4	10	100	19	7	49	TOTAL	411	5671
5	9	81	20	15	225	n	33	
6	10	100	21	9	81	MEAN	12.4545	
7	9	81	22	20	400	VAR.	16.7328	
8	12	144	23	15	225			
9	14	196	24	10	100			
10	18	324	25	16	256			
11	11	121	26	10	100			
12	11	121	27	13	169			
13	9	81	28	12	144			
14	6	36	29	8	64			
15	13	169	30	18	324			

= $\frac{\sum x}{n}$ = 12.4545

= $\frac{\sum X^2 - \sum X^{2/n}}{n}$ = 16.73278237

= 28

-21 FORMULA : *)

= $\frac{K}{K-1} \left(1 - \frac{M(K-M)}{KV} \right)$ = 0.6085

ere: r = Reliability
n = Number of subjects
M = Mean
V = Variance
K = Number of items

= 33 r table = 0.344

ause r greater than r table, so the test is reliable.

APPENDIX B4

Name : _____ Class/No : _____

1. My is dizzy.

- a. body
- b. hands
- c. head
- d. face



2. My mother's ... are beautiful.

- a. ears
- b. nose
- c. head
- d. eyes



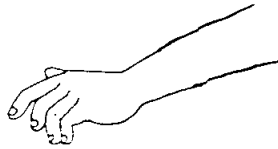
3. Toni's sock is torn. His is coming out.

- a. toes
- b. knee
- c. finger
- d. foot



4. Wash you before you eat!

- a. body
- b. face
- c. hands
- c. foot



5. We use our to smell.

- a. mouth
- b. nose
- c. ears
- d. eyes



6. We use our to listen.

- a. mouth
- b. nose
- c. ears
- d. eyes



7. We use our to eat.

a. mouth

b. nose

c. ears

d. eyes



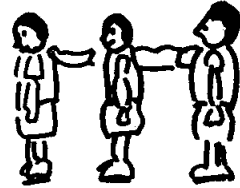
8. The children are holding their friends' and standing in line.

a. body

b. hands

c. shoulders

d. arms



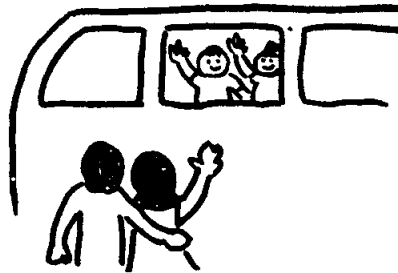
9. The children in the bus are to their parents.

a. clapping

b. waving

c. standing

d. sitting



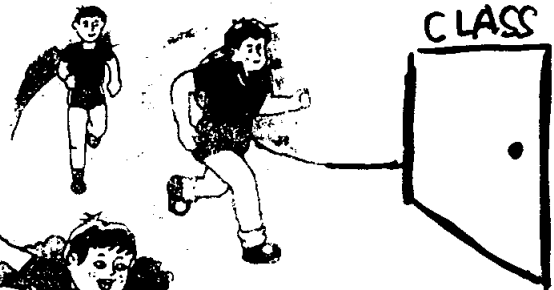
10. Budi and Amir are to the class because they are late.

a. walking

b. jumping

c. standing

d. running



11. The children are over the block.

a. kicking

b. jumping

c. walking

d. running



12. The children in the class are singing and

a. blinking

b. jumping

c. clapping

d. stomping



13. Rudi is his eyes because the light is too bright.

a. blinking

b. jumping

c. clapping

d. stomping



14. If we are agree, we will our head.

- a. shake
- b. wave
- c. nod
- d. blink



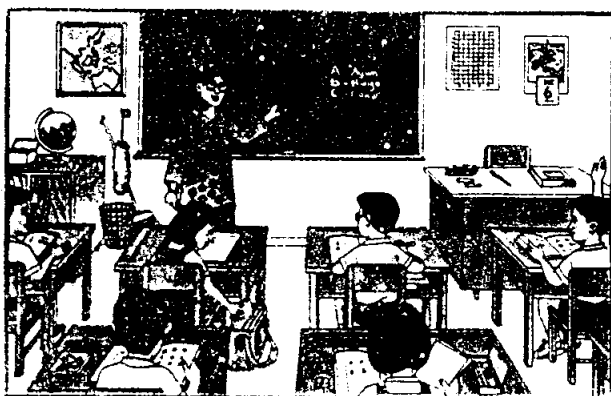
15. Toni is the ball into the yard.

- a. throwing
- b. stomping
- c. kicking
- d. raising



16. The children are in the classroom.

- a. standing
- b. sitting
- c. raising
- d. playing



17. The teacher is in the classroom.

- a. standing
- b. sitting
- c. raising
- d. playing

18. The people are in the party.

- a. dancing
- b. standing
- c. sitting
- d. moving



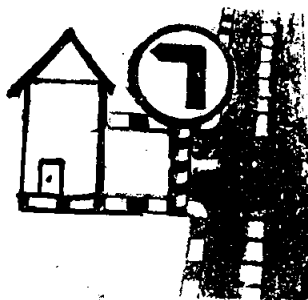
19. If you are you will smile.

- a. sad
- b. angry
- c. hungry
- d. happy



20. My house is in the side.

- a. middle
- b. right
- c. left
- d. way



APPENDIX B5

Daftar Nilai
Kelas III A SDK Mater Dei Probolinggo
Hasil Nilai Raport Semester I Tahun Pelajaran 2002/2003

No	Nama Murid	Nilai Bidang Studi												Jml	Rata-rata
		AGM	PPKN	BHS IND	MAT	KTK	BHS ING	BHS DRH	IPS	IPA	SENI LKS	SENI SUARA	OR		
1	Christine Anneke	9	9	9	9.5	8	9	9	9	9.5	8	8	7.5	104.5	8.708
2	Devina Christanto	8	8.5	6.5	6	6	6.5	7.5	6.5	8	6	6	6.5	82	6.833
3	Ellyzaummammie	5.5	6.5	5.5	4	5.5	6	6	5	6	6	6	6.5	68.5	5.708
4	Ferlina Ayu C	8.5	8.5	8	7	7	8	8.5	8.5	8	8	7	7	94	7.833
5	Frederica Juliani	7	6.5	6.5	5.5	7.5	6	7	5	7	6	7	7	78	6.5
6	Kartika	7	6.5	7.5	7.5	7	8	6.5	5	5.5	6.5	6.5	7	80.5	6.708
7	Maria Rosa Dalima	8.5	8	8	6.5	6.5	8	8	7.5	8	7	7	7	90	7.5
8	Mery	7.5	7	7	7	6.5	9	8	7.5	7.5	6.5	6	6.5	86	7.167
9	Margaretha Pranoto	9	8.5	8	8	7.5	9	9	8.5	9	8	7	7	98.5	8.208
10	Nikita	8.5	8	8	6.5	7	8.5	7.5	7	8	7	7	7	90	7.5
11	Paula Yoita S	8.5	7.5	8	7.5	8.5	9	8.5	8.5	7	7.5	7.5	7.5	95.5	7.958
12	Pricha Febe N N	8	8	8	7.5	6.5	8.5	8	7	7.5	7	7	7	90	7.5
13	Ranty Ardini	7	7.5	7.5	7	7.5	8.5	8	7.5	7.5	8	7	7	90	7.5
15	Stefani Herlina S	6	7	6	6	6.5	7	6.5	6	7.5	7	7	7	79.5	6.625
16	Stella Desiani Lie	9	9	8.5	8.5	6.5	8.5	7.5	8	9	7.5	7	7.5	96.5	8.042
17	Suryanti	7	8	7	8	7.5	8.5	7	7	8	6.5	7	7.5	89	7.417
18	Valeria Christyo	8.5	9	9	7.5	7	9	9	8.5	9	7.5	7.5	7	98.5	8.208
19	Yeni Gunawan W	8	8.5	8.5	7.5	6.5	8.5	9	7.5	8.5	7.5	7	7	94	7.833
20	Yuliawati C W	8.5	8.5	7.5	6	6.5	8	7.5	6.5	7.5	7	6.5	7	87	7.25
21	Agus Tjahyono	6	7	6	6	7	8	5.5	7	7	6	6.5	7	79	6.583
22	Calvin Reynaldo	7.5	8	7.5	8	6.5	9	7	8	8.5	6.5	6	7	89.5	7.458
23	Chandra Rongky Y	8.5	8	7.5	6.5	7	8	7.5	7	9	6.5	6.5	7	89	7.417
24	Christian Adi Wibowo	9	9	8.5	9	7.5	9	9	9	9.5	7.5	7	6.5	100.5	8.375
25	Christian Hartono	6	7	7	7	6	6.5	6.5	6	7.5	7	6	7	79.5	6.625
26	Erwin Setya D	7	8	7	7	6.5	5	5.5	6.5	7.5	7.5	6.5	7.5	81.5	6.792
27	Ferry Rinaldi	9	9	8.5	8	5.5	9	9	8.5	9	6.5	6	7	95	7.917
28	Harley Valentino	6.5	7.5	6	6.5	7.5	8.5	7	7.5	8	6	6.5	6.5	84	7
29	Herman	8	8.5	7	9	7.5	7.5	6.5	8	9	7	7	7	92	7.667
30	Kusno Gunawir	8	8	7.5	7.5	7	8	7.5	8	8.5	7	6.5	7	90.5	7.542
31	Leonardo P S	6.5	7.5	6.5	7.5	8	7.5	6.5	7	8.5	6	7	7.5	86	7.167
32	Martinus Dimas	5	5	5	3.5	4	5.5	5.5	4.5	5.5	6	5.5	6.5	61.5	5.125
33	Olson Jawanta H	7.5	7.5	6.5	5.5	7.5	6.5	6.5	5.5	7	6	6.5	7	79.5	6.625
34	Rizay Triyanto	7.5	8.5	8	7	7.5	8	7.5	9	8.5	6.5	7	7	92	7.667
35	Rizky Eka Putra	8	8.5	8	6.5	5.5	8	7.5	7.5	9.5	6.5	6	7	88.5	7.375
36	Thomas Leonardo D K	9	9	8	8.5	6.5	9	9	9	9.5	7.5	7	7	99	8.25
37	Tommy Hendra	6.5	7.5	7	8	7	5	5	8	8	7	7	7	83	6.917
38	Toni Kang	7.5	7.5	6.5	7	6	8.5	6.5	8	8	6.5	6.5	7	85.5	7.125

TEST OF HYPOTHESES:

1. H_0 : $\mu_A = \mu_B$, there is no significant difference between the mean groups.
 H_a : $\mu_A \neq \mu_B$, there is significant difference between groups.

2. t-test, where $df = n_A + n_B - 2 = 76$
 $t(5\%/2) = 2.00$

3. Calculation for t observation (t_o):
A: EXPERIMENT

$$\bar{x} = \frac{\sum x}{n} = 7.4122 \quad n = 41$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 0.74067$$

B: CONTROL (Wordlist)

$$\bar{x} = \frac{\sum x}{n} = 7.31351 \quad n = 37$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 0.73377$$

$$t_o = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{\frac{(n_A - 1)s_A^2 + (n_B - 1)s_B^2}{n_A + n_B - 2} \left(\frac{1}{n_A} + \frac{1}{n_B} \right)}} = 0.59016$$

4. Conclusion:

Because the magnitude of t observation smaller than t table so H_0 is accepted. Hence we conclude that there is no significant difference between groups.

CALCULATION FOR t-TEST

No	Experiment		Pilot	
	(XA)	X ² A	(XB)	X ² B
1	7.6	57.76	8.7	75.69
2	8.3	68.89	6.8	46.24
3	7.8	60.84	5.7	32.49
4	7.7	59.29	7.8	60.84
5	8.2	67.24	6.5	42.25
6	5.9	34.81	6.7	44.89
7	7.5	56.25	7.5	56.25
8	8.4	70.56	7.2	51.84
9	6.7	44.89	8.2	67.24
10	7.3	53.29	7.5	56.25
11	7.1	50.41	8.0	64
12	8.0	64	7.5	56.25
13	7.8	60.84	7.5	56.25
14	8.2	67.24	6.6	43.56
15	6.8	46.24	8.0	64
16	8.1	65.61	7.4	54.76
17	6.2	38.44	8.2	67.24
18	7.4	54.76	7.8	60.84
19	7.9	62.41	7.3	53.29
20	7.8	60.84	6.6	43.56
21	8.2	67.24	7.5	56.25
22	7.0	49	7.4	54.76
23	7.3	53.29	8.4	70.56
24	6.7	44.89	6.6	43.56
25	7.0	49	6.8	46.24
26	7.8	60.84	7.9	62.41
27	8.0	64	7.0	49
28	7.1	50.41	7.7	59.29
29	8.1	65.61	7.5	56.25
30	8.1	65.61	7.2	51.84
31	6.0	36	5.1	26.01
32	8.1	65.61	6.6	43.56
33	7.6	57.76	7.7	59.29
34	8.3	68.89	7.4	54.76
35	6.1	37.21	8.3	68.89
36	5.6	31.36	6.9	47.61
37	6.8	46.24	7.1	50.41
38	7.7	59.29		
39	7.9	62.41		
40	7.0	49		
41	6.8	46.24		
Total	303.9	2274.51	270.6	1998.42
n	41	—	37	—
Mean	7.412195122	—	7.313513514	—
SD	0.740673721	—	0.733773414	—

APPENDIX C

C1 The Statistical Analysis of the Students' ability

C2 The Statistical Analysis of the Achievement Test

C3 The Statistical Analysis of the Retention Test

Daftar Nilai Siswa - siswi SDN Sukabumi II Kelas 3 A

APPENDIX C1 Tahun Ajaran 2002 - 2003 Semester Ganjil

No.	No. induk	Nama	PPKN	Agama	B.Ind	Mat	IPA	IPS	Ketram	Penjas	M. L.	Rata2
1	4814	Muhammad Nur Huda	7	6.5	6.5	7	7	7	6.5	6.5	6.5	6.72
2	4821	Rizeki Rahmadani	6.5	6	6	7	6	6	7	7	6.5	6.44
3	4848	Anisha Megasari S	8	7	7.5	8.5	8	8	7	7	8	7.67
4	4849	Abdul Razak	8.5	7	8	8.5	8	8	7	7	8	7.78
5	4850	Ahidza Anggraeini	8.5	7.5	8	8	8	8.5	7	7	8.5	7.89
6	4854	Brilian Riztira Juniansak	8	7	8	8	8	8	7	7	8	7.67
7	4855	Bella Septivicha K	8.5	7.5	8.5	8.5	8	8	7	6.5	8	7.83
8	4857	Citra Luciana Devi	8	6.5	8	7	7.5	8	7	7	8	7.44
9	4858	Chyntia Febriana	8	7.5	8	8	8	8	6.5	7	8	7.67
10	4860	Dea Indra Arthasya	8	6	7.5	7.5	7.5	7	6.5	7	6	7.00
11	4861	Dini Nurmaulidya P	8.5	8.5	8.5	8	8	8	8	7.5	8.5	8.17
12	4865	Dimas Kharisma D	6.5	6	7	6.5	6	6	6.5	7	6	6.39
13	4866	Dewangga Adi Nugroho	8.5	7	8	8	8	7.5	6.5	7	8	7.61
14	4872	Febrinda Eka D	8.5	8	8	9	8	8.5	7	6.5	8.5	8.00
15	4875	Flotis Susmi Sugeng R	8	7.5	8	8.5	8	8	7	6.5	8	7.72
16	4880	Luqman Habibullah	7	6	7	7	7	7	6.5	6.5	6.5	6.72
17	4883	M. Taufiqurrahmad A	8	7.5	8	7.5	7.5	7.5	7	7	7	7.44
18	4884	M. Fajar Aditya Permana	8.5	7	8	8	8	8	7	7	8	7.72
19	4885	Nurul Jannah L	8.5	8	8.5	7.5	8.5	8	7	6.5	7.5	7.78
20	4887	Renita Intan P	8	7.5	7	8	7	7.5	6.5	7	7.5	7.33
21	4888	Rizal Dwi Yatna	8	7	8	8	8	8	7	7.5	7.5	7.67
22	4889	Rifka Annisa Aryani	8	7	7.5	6	7	7.5	7	6.5	7	7.06
23	4892	Tasya Afida Nastity	8.5	8	8.5	9	8.5	8.5	7	7	8.5	8.17
24	4893	Tubagus Rinning	7.5	6.5	7	7	7	7.5	7	7	7	7.06
25	4895	Andrianto Yogi P	8	6.5	7	6	7.5	7	7	7	7	7.00
26	4896	Annisa Fira F	8	8	8.5	8.5	8.5	8	6.5	7	8	7.89
27	4897	Anita Rachman	8.5	7	8	8	8	8	7	7	7.5	7.67
28	4898	Asa Datu Niwanda	8	8.5	8	8	8	7.5	7	6.5	7.5	7.67
29	4900	Desi Nur Anggraini	8.5	9	8.5	9	8.5	8.5	8	7.5	8.5	8.44
30	4902	Dicky Nurdiansyah	6	6	7.5	6.5	7.5	7.5	7	7	6.5	6.83
31	4903	Dimas Hilmy P	7.5	6.5	7	7	7	7	7	7	7	7.00
32	4904	Dworo Gogro Karuna G	8	8.5	8	8.5	8.5	8.5	7	7	8	8.00
33	4905	Feri Eko Handinis P	7.5	6	6	6.5	7	6.5	6.5	7	5.5	6.50
34	4906	Firdha Ilma F	8.5	8	8	7.5	8	8	7	7	8	7.78
35	4907	Farrock Yan Reddo P	8	6.5	8	8	7.5	8	7	7	8	7.56
36	4908	Gustiyar Ambio	8.5	8	8	7.5	7.5	7	7	7	7	7.50
37	4913	Isrofi Dwi Subarkah	8.5	7.5	8	8.5	8.5	8	7	7	8.5	7.94
38	4914	Kholfah Nilakandi	8	6.5	8	7	7.5	7.5	7	7	7	7.28
39	4917	Meidito Lintang P	8.5	7.5	8	7	8	8	7	6.5	7	7.50
40	4918	Meriensya Candra N	6.5	6.5	7	7	6.5	7	6.5	6.5	7.5	6.78
41	4919	M. Rizky Pratama	8	6	7.5	8	7	7	6.5	7	6	7.00
42	4926	Ricky Diko Harmadi	6.5	6	5.5	6	6	6	6.5	7	5.5	6.11
43	4927	Rahmat Raharjo	8	6.5	8	7	7.5	6.5	7	6.5	7.5	7.17
44	4930	Reza Nurseptyanto	8	7	8	7	7.5	8	7	7.5	7.5	7.50
45	4931	Rony Romadhona	7	6.5	7	8	7.5	7.5	7	7	7	7.17
46	4932	Silvi Dea Megasari	7.5	6.5	7	7.5	7	7	7	7	7	7.06
47	4934	Ullivia Fatasya	8	8	8	8	8	8	7	7	8.5	7.83
48	4938	Yoeky Ristiono	7.5	6.5	7	7	7	7	7	7	6.5	6.94
49	5045	Doit Pradana Putra	6	6	6	6	7	5.5	6.5	7	5	6.11
		Rata - rata	7.8	7.1	7.6	7.6	7.6	7.5	6.9	6.9	7.3	7.37

Daftar Nilai Siswa - siswi SDN Sukabumi II Kelas 3 B
Tahun Ajaran 2002 - 2003 Semester Ganjil

No.	No. induk	Nama	PPKN	Agama	B.Jnd	Mat	IPA	IPS	Ketrm	Penjas	M. L.	Rata2
1	4791	Bathara Duta Arcapada	6	6	7	7	6	6.5	6	7	7	6.50
2	4846	Affif Raga Nafsi	8	8	7.5	8	8	7.5	6	7	8	7.56
3	4847	Aghnia Alma Larasati	8.5	9	8.5	9	8.5	8.5	7.5	7	8.5	8.33
4	4851	Avi Bayu Lestania	8	7.5	8	7	7	7	6.5	7	7	7.22
5	4853	Aldi Yanuar Saputra	8	8	8	8	8	8	7	7	8	7.78
6	4859	Chomsiak Manik Ruk	6.5	6	6	7	6	5	6.5	7.5	6	6.28
7	4862	Dely Via Trianita	8	7.5	8.5	7	8.5	8.5	6.5	7	8	7.72
8	4863	Diani Ainun Nisa	8.5	9	8	9	8.5	8.5	6.5	7	8.5	8.17
9	4867	Dimas Arya Permadi	7	6	6	6	5	5	6.5	6.5	5	5.89
10	4868	Dedy Wahyu Tri H	8	8	7	8.5	8	7.5	6.5	7	7	7.50
11	4869	Duta Daniswaka	7	7.5	7	8	6.5	7	6.5	7	7	7.06
12	4870	Eksha Hertin Probawati	8.5	8.5	8.5	9	8.5	8.5	8	7.5	8.5	8.39
13	4871	Franco Mahardika Sandi	6.5	6	7	7	6.5	7	6	7.5	7	6.72
14	4873	Farizi Herwin Saputra	7.5	7	8	8	7	7	7	7	7	7.28
15	4874	Fachri Akbar	7.5	7	8	7	6.5	7	7	6.5	7.5	7.11
16	4877	Ikrom Aulia Fandi	8.5	8.5	8	9	8	8	7	7	8	8.00
17	4878	Kharisma Alifian N.	8.5	8.5	8	8	7.5	8	6.5	7	8	7.78
18	4879	Lailatul Nasawan	8.5	8.5	8.5	9	8.5	8	7	7	8.5	8.17
19	4881	Moch. Choirul Anam	6.5	7.5	7	7	7	6.5	7	7	6	6.83
20	4882	Multazam Hanif	8.5	8	8.5	9	8	8.5	7	7	8.5	8.11
21	4886	Pradana Nugraha	6	6.5	6	6	6	6.5	6	7	6	6.22
22	4890	Rhayu Permata Juang	8	8	7.5	9	7.5	8	7	6.5	7	7.61
23	4891	Rio Satriya Anugrah W.	8	7.5	8	8	7	8	6.5	7	6.5	7.39
24	4894	Aisya Yana Santoso	8.5	7.5	8	8	7.5	8.5	8	7	8.5	7.94
25	4899	Brahmana Gilang Permadi	8	8	8	8	7.5	8.5	6.5	7	8.5	7.78
26	4901	Denada Nia Yuniarsih	8.5	8.5	8.5	8.5	8	8.5	8	7	8.5	8.22
27	4909	Helmi Alfiansyah	8	7	8	7	6.5	6.5	6.5	7	6.5	7.00
28	4910	Handha Fafira Nurrahma	7.5	8	7.5	7	7.5	8	6	7	7	7.28
29	4911	Iin Mutnainnah	7	7	7.5	7	6	7	6.5	6.5	6	6.72
30	4912	Irvan Yudhistira Priyamb	7	7	7.5	7	7	7	6.5	7	7	7.00
31	4915	Krisna Adhi Wijaya	8	8	8	8.5	7.5	8	7	7	8	7.78
32	4916	Maharani Novitasari	8.5	8.5	8	8	8.5	8.5	6.5	7	8.5	8.00
33	4920	Muryadi Dwi Putra	8.5	6.5	7	8	6.5	7	6.5	7	7	7.11
34	4921	Muh. Ramadhan S.	8.5	8.5	8.5	8.5	7.5	8	7	8	8.5	8.11
35	4922	Nadia Butar Octavia	8.5	8.5	8	8.5	8	8.5	8	7	8	8.11
36	4923	Noradila Susanti	6	6.5	5	6	5.5	6.5	6.5	7	5	6.00
37	4924	Perdana Imawan Z.	7	7	7.5	8	7	7	6	7.5	7	7.11
38	4925	Pravita Tri Andrianti	8.5	8.5	8.5	9	8	8.5	6.5	6.5	8.5	8.06
39	4928	Ramadhani Puspa P. P.	7	8	8.5	8.5	7	8	6.5	6.5	8	7.56
40	4929	Riski Kariman	8.5	9	8.5	8.5	8.5	8.5	6.5	8	8.5	8.28
41	4937	Yogy Handrianto	6	6	6.5	5	6	6.5	6.5	7	5	6.06
42	4933	Tomy Yunardi	6	6	5	5	5	6	6	6.5	5	5.61
43	4935	Vella Maris Reyayatama	6	7.5	7	7.5	5	7	7.5	7.5	6.5	6.83
44	4936	Vidi Arif Cahyanto	7.5	8	8	8.5	7.5	8	7	7	7.5	7.67
45	4939	Yananda Adhe Purmawan	8.5	8	8	8.5	8	8	7.5	7	8	7.94
46	4940	Yesika Novita L. G	7.5	7	7	7	7	6.5	7	7	7	7.00
47	4959	Ravenska Cintya A.	7.5	6	7	7	6.5	7	6	7	7	6.78
Rata - rata			7.628	7.543	7.564	7.723	7.17	7.479	6.734	7.021	7.309	7.35

CALCULATION FOR t-TEST

No	Experiment		Wordlist	
	(XA)	X ² A	(XB)	X ² B
1	7.6	57.76	6.7	44.89
2	8.3	68.89	6.4	40.96
3	7.8	60.84	7.7	59.29
4	7.7	59.29	7.8	60.84
5	8.2	67.24	7.9	62.41
6	5.9	34.81	7.7	59.29
7	7.5	56.25	7.8	60.84
8	8.4	70.56	7.7	59.29
9	6.7	44.89	7.0	49
10	7.3	53.29	8.2	67.24
11	7.1	50.41	6.4	40.96
12	8.0	64	7.6	57.76
13	7.8	60.84	8.0	64
14	8.2	67.24	7.7	59.29
15	6.8	46.24	6.7	44.89
16	8.1	65.61	7.7	59.29
17	6.2	38.44	7.8	60.84
18	7.4	54.76	7.3	53.29
19	7.9	62.41	7.7	59.29
20	7.8	60.84	7.1	50.41
21	8.2	67.24	8.2	67.24
22	7.0	49	7.1	50.41
23	7.3	53.29	7.0	49
24	6.7	44.89	7.9	62.41
25	7.0	49	7.7	59.29
26	7.8	60.84	7.7	59.29
27	8.0	64	8.4	70.56
28	7.1	50.41	6.8	46.24
29	8.1	65.61	7.0	49
30	8.1	65.61	8.0	64
31	6.0	36	6.5	42.25
32	8.1	65.61	7.8	60.84
33	7.6	57.76	7.6	57.76
34	8.3	68.89	7.5	56.25
35	6.1	37.21	7.9	62.41
36	5.6	31.36	7.3	53.29
37	6.8	46.24	7.5	56.25
38	7.7	59.29	6.8	46.24
39	7.9	62.41	7.0	49
40	7.0	49	6.1	37.21
41	6.8	46.24	7.2	51.84
42			7.5	56.25
43			7.2	51.84
44			7.1	50.41
45			7.8	60.84
46			6.9	47.61
47			6.1	37.21
Total	303.9	2274.51	346.5	2569.01
n	41	---	47	---
Mean	7.412195122	---	7.372340426	---
SD	0.740673721	---	0.561326894	---

TEST OF HYPOTHESES:

1. H_0 : $\mu_A = \mu_B$, there is no significant difference between the mean groups.
 H_a : $\mu_A \neq \mu_B$, there is significant difference between groups.

2. t-test, where $df = n_A + n_B - 2 = 86$
 $t(5\%/2) = 2.00$

3. Calculation for t observation (to):
A: EXPERIMENT

$$\bar{x} = \frac{\sum x}{n} = 7.4122 \quad n = 41$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 0.74067$$

B: CONTROL (Wordlist)

$$\bar{x} = \frac{\sum x}{n} = 7.37234 \quad n = 47$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 0.56133$$

$$t_o = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{\frac{(n_A - 1)s_A^2 + (n_B - 1)s_B^2}{n_A + n_B - 2} \left(\frac{1}{n_A} + \frac{1}{n_B} \right)}} = 0.28652$$

4. Conclusion:

Because t observation is smaller than t table thus H_0 is accepted.

Hence we conclude that there is no significant difference between the two groups.

Daftar Nilai Kelas III A (Word List)

ACHIEVEMENT TEST (27 Maret 2003)

No	X	Nilai
1	10	50
2	10	50
3	8	40
4	16	80
5	15	75
6	12	60
7	17	85
8	0	0
9	18	90
10	12	60
11	19	95
12	15	75
13	18	90
14	14	70
15	17	85
16	8	40
17	0	0
18	16	80
19	16	80
20	16	80
21	18	90
22	12	60
23	14	70
24	14	70
25	9	45
26	14	70
27	13	65
28	20	100
29	20	100
30	9	45
31	17	85
32	19	95
33	12	60
34	17	85
35	14	70
36	14	70
37	19	95
38	18	90
39	20	100
40	12	60
41	8	40
42	16	80
43	13	65
44	14	70
45	15	75
46	14	70
47	14	70
48	19	95
49	11	55

Rata-rata

73

X : Jumlah jawaban benar

Nilai = $X \times 5$

Daftar Nilai Kelas III B (treatment class)
ACHIEVEMENT TEST (27 Maret 2003)

No	X	Nilai
1	0	0
2	13	65
3	20	100
4	0	0
5	16	80
6	0	0
7	20	100
8	18	90
9	13	65
10	18	90
11	14	70
12	18	90
13	15	75
14	17	85
15	9	45
16	19	95
17	16	80
18	20	100
19	9	45
20	19	95
21	16	80
22	0	0
23	20	100
24	12	60
25	16	80
26	16	80
27	10	50
28	14	70
29	0	0
30	12	60
31	14	70
32	16	80
33	10	50
34	16	80
35	18	90
36	15	75
37	0	0
38	19	95
39	15	75
40	19	95
41	10	50
42	14	70
43	15	75
44	15	75
45	18	90
46	10	50
47	14	70

Rata-rata 76.43

X : Jumlah jawaban benar

Nilai = $X \times 5$

CALCULATION FOR t-TEST

No	Experiment		Wordlist	
	(XA)	X ² A	(XB)	X ² B
1	65	4225	50	2500
2	100	10000	50	2500
3	80	6400	40	1600
4	100	10000	80	6400
5	90	8100	75	5625
6	65	4225	60	3600
7	90	8100	85	7225
8	70	4900	90	8100
9	90	8100	60	3600
10	75	5625	95	9025
11	85	7225	75	5625
12	45	2025	90	8100
13	95	9025	70	4900
14	80	6400	85	7225
15	100	10000	40	1600
16	45	2025	80	6400
17	95	9025	80	6400
18	80	6400	80	6400
19	100	10000	90	8100
20	60	3600	60	3600
21	80	6400	70	4900
22	80	6400	70	4900
23	50	2500	45	2025
24	70	4900	70	4900
25	60	3600	65	4225
26	70	4900	100	10000
27	80	6400	100	10000
28	50	2500	45	2025
29	80	6400	85	7225
30	90	8100	95	9025
31	75	5625	60	3600
32	95	9025	85	7225
33	75	5625	70	4900
34	95	9025	70	4900
35	50	2500	95	9025
36	70	4900	90	8100
37	75	5625	100	10000
38	75	5625	60	3600
39	90	8100	40	1600
40	50	2500	80	6400
41	70	4900	65	4225
42			70	4900
43			75	5625
44			70	4900
45			70	4900
46			95	9025
47			55	3025
Total	3140	250950	3430	263700
n	41	---	47	---
Mean	76.58536585	---	72.9787234	---
SD	16.18019717	---	17.05679689	---

TEST OF HYPOTHESES:

1. H_0 : $\mu_A = \mu_B$, there is no significant difference between the mean groups.
 H_a : $\mu_A > \mu_B$, the mean score of A group is greater than mean score of B group.

2. t-test, where $df = n_A + n_B - 2 = 86$
 $t(5\%) = 1.671$

3. Calculation for t observation (t_o):
A : EXPERIMENT (Storytelling)

$$\bar{x} = \frac{\sum x}{n} = 76.5854 \quad n = 41$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 16.1802$$

B : CONTROL (Wordlist)

$$\bar{x} = \frac{\sum x}{n} = 72.9787 \quad n = 47$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 17.0568$$

$$t_o = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{\frac{(n_A - 1)s_A^2 + (n_B - 1)s_B^2}{n_A + n_B - 2} \left(\frac{1}{n_A} + \frac{1}{n_B} \right)}} = 1.01336$$

4. Conclusion:

Because t observation is smaller than t table thus H_0 is accepted.

Hence we conclude that there is no significant difference between the two groups.

APPENDIX C3

Daftar Nilai Kelas III A (Word List)

RETENTION TEST (10 APRIL 2003)

No	X	Nilai
1	4	20
2	7	35
3	5	25
4	11	55
5	10	50
6	8	40
7	16	80
8	0	0
9	14	70
10	7	35
11	16	80
12	10	50
13	17	85
14	10	50
15	12	60
16	4	20
17	0	0
18	11	55
19	10	50
20	11	55
21	13	65
22	8	40
23	7	35
24	9	45
25	7	35
26	9	45
27	9	45
28	18	90
29	16	80
30	6	30
31	13	65
32	15	75
33	10	50
34	12	60
35	8	40
36	10	50
37	16	80
38	14	70
39	19	95
40	8	40
41	7	35
42	11	55
43	9	45
44	10	50
45	11	55
46	10	50
47	10	50
48	17	85
49	8	40

Rata-rata 53.5

X : Jumlah jawaban benar

Nilai = X x 5

Daftar Nilai Kelas III B (treatment class)

RETENTION TEST (10 APRIL 2003)

No	X	Nilai
1	0	0
2	10	50
3	20	100
4	0	0
5	12	60
6	0	0
7	16	80
8	15	75
9	9	45
10	15	75
11	11	55
12	17	85
13	12	60
14	14	70
15	7	35
16	18	90
17	14	70
18	20	100
19	7	35
20	17	85
21	13	65
22	0	0
23	19	95
24	10	50
25	13	65
26	13	65
27	12	60
28	13	65
29	0	0
30	10	50
31	15	75
32	14	70
33	8	40
34	14	70
35	18	90
36	13	65
37	0	0
38	16	80
39	12	60
40	17	85
41	9	45
42	11	55
43	13	65
44	10	50
45	16	80
46	8	40
47	12	60

Rata-rata

66

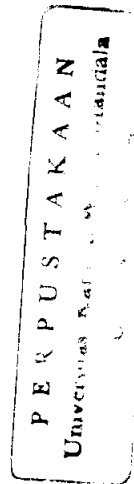
X : Jumlah jawaban benar

Nilai = $X \times 5$

CALCULATION FOR t-TEST

No	Experiment		Wordlist	
	(XA)	X²A	(XB)	X²B
1	15	225	30	900
2	0	0	15	225
3	20	400	15	225
4	20	400	25	625
5	15	225	25	625
6	20	400	20	400
7	15	225	5	25
8	15	225	20	400
9	5	25	25	625
10	15	225	15	225
11	15	225	25	625
12	10	100	5	25
13	5	25	20	400
14	10	100	25	625
15	0	0	20	400
16	10	100	25	625
17	10	100	30	900
18	15	225	25	625
19	5	25	25	625
20	10	100	20	400
21	15	225	35	1225
22	15	225	25	625
23	-10	100	10	100
24	5	25	25	625
25	10	100	20	400
26	-5	25	10	100
27	10	100	20	400
28	10	100	15	225
29	10	100	20	400
30	0	0	20	400
31	10	100	10	100
32	15	225	25	625
33	15	225	30	900
34	10	100	20	400
35	5	25	15	225
36	15	225	20	400
37	10	100	5	25
38	25	625	20	400
39	10	100	5	25
40	10	100	25	625
41	10	100	20	400
42			20	400
43			20	400
44			20	400
45			20	400
46			10	100
47			15	225
Total	425	6275	915	20075
n	41	---	47	---
Mean	10.36585366	---	19.46808511	---
SD	6.836505312	---	7.011949626	---

TEST OF HYPOTHESES:



1. H_0 : $\mu_A = \mu_B$, there is no significant difference between the mean groups.
 H_a : $\mu_A < \mu_B$, mean score of A group is smaller than B group.

2. t-test, where $df = n_A + n_B - 2 = 86$
 $t(5\%) = -1.671$

3. Calculation for t observation (to):
A : EXPERIMENT

$$\bar{x} = \frac{\sum x}{n} = 10.3659 \quad n = 41$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 6.83651$$

B : CONTROL (Wordlist)

$$\bar{x} = \frac{\sum x}{n} = 19.4681 \quad n = 47$$

$$s = \sqrt{\frac{n(x^2 - (\sum x)^2)}{n(n-1)}} = 7.01195$$

$$t_o = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{\frac{(n_A - 1)s_A^2 + (n_B - 1)s_B^2}{n_A + n_B - 2} \left(\frac{1}{n_A} + \frac{1}{n_B} \right)}} = -6.1455$$

4. Conclusion:

Because t observation is smaller than t table thus H_0 is rejected.

Hence we conclude that the difference between the two groups is significant.