

APPENDIX

MATERIALS OF EXPERIMENTAL GROUP IN THE FIRST TREATMENT.

TITLE : THE BRAVE MOUNTAIN CLIMBER

DAY/DATE : Thursday, 6 November 1997.

PROCEDURES :

1. The students are given picture-series.
2. The teacher gives triggering questions related to the pictures given.

TYPES OF QUESTIONS :

1. What did the innkeeper do in Picture 1 ?
2. What did the man do in Picture 2 ?
3. Why did the man look frighten in Picture 3 ?
4. What did the man do in Picture 4 ?
5. Did the tiger die ?
6. With what tools did the man use to hit the tiger ?
7. What happened to the tiger ?
8. Why did the people wave their hands in Picture 6 ?

1.



2.



3.



4.



5.



6.



MATERIALS OF CONTROL GROUP IN THE FIRST TREATMENT.

TITLE : THE BRAVE MOUNTAIN CLIMBER

DAY/DATE : Friday, 7 November 1997.

PROCEDURES :

- The students are given list of vocabulary and headings based on the title presented.

LIST OF VOCABULARIES :

inn	hunter	look at	staff	scenery	persuade
innkeeper	admiration	strike/hit	fierce	horor	prevent
tiger	proud				

HEADINGS :

1. The innkeeper warned the climber about the wild tiger on the mountain.
2. He ignored the man.
3. He continued his journey.
4. He saw the tiger.
5. There was a fight.
6. The man won, many hunters were proud of him.

MATERIALS OF THE EXPERIMENTAL GROUP IN THE SECOND TREATMENT.

TITLE : WAITING FOR A BUS.

DAY/DATE : Thursday, 13 November 1997.

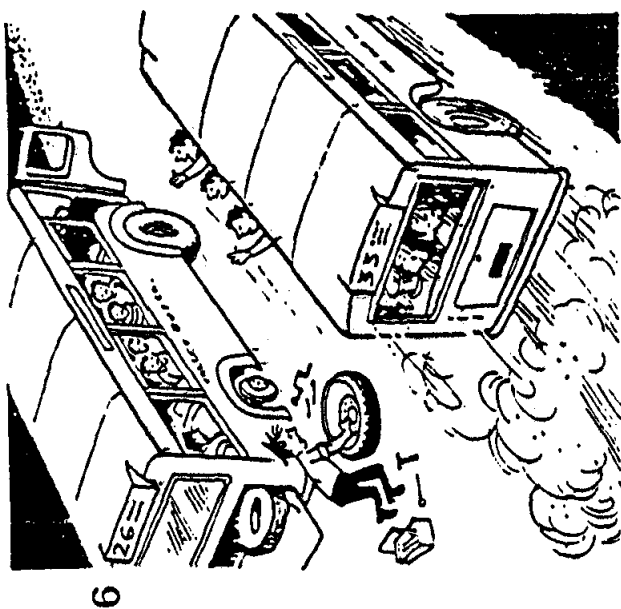
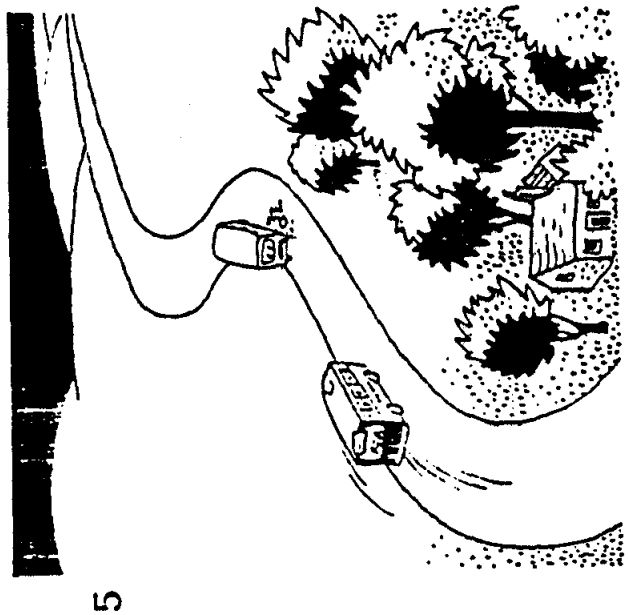
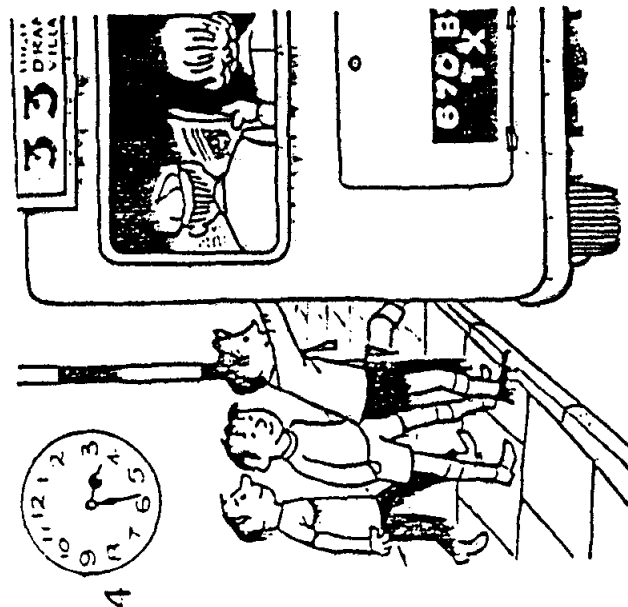
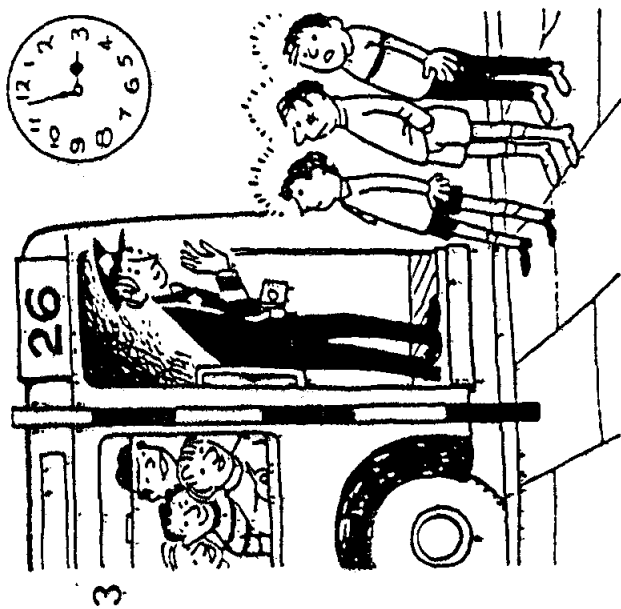
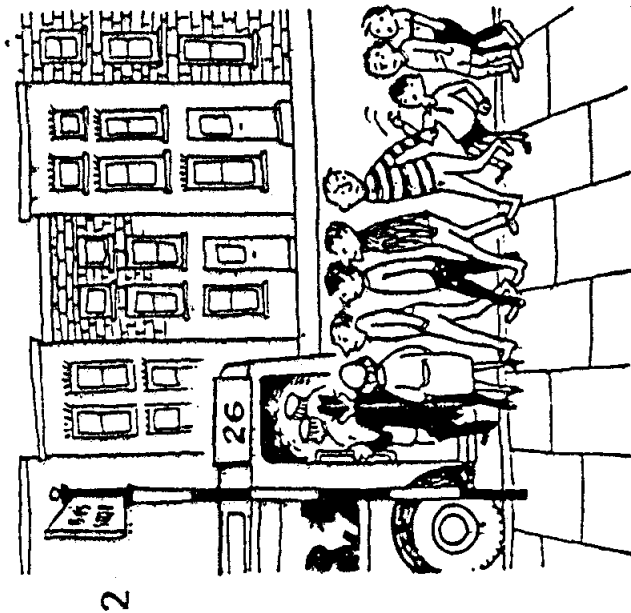
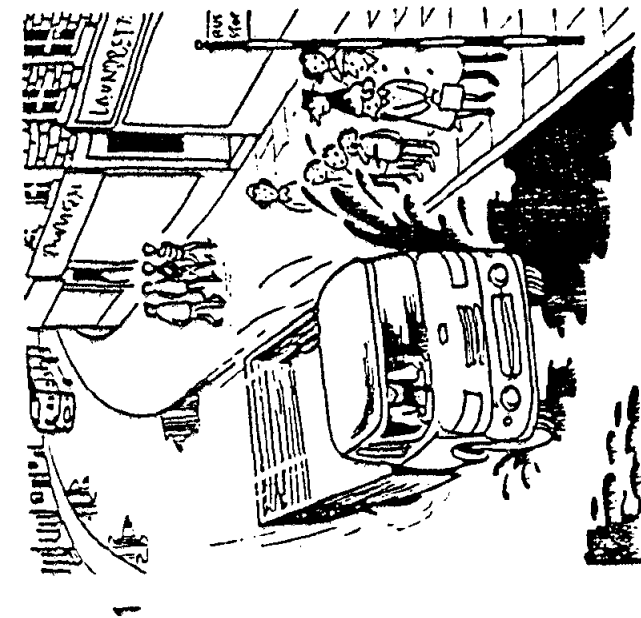
PROCEDURES :

1. The students are given picture-series.
2. The teacher gives triggering questions to lead the students to enter the pictures.

TYPES OF QUESTIONS :

1. What were the three small boys in Picture 1 ?
2. Where were the four big boys ?
3. Why did the people in the queue get wet ?
4. What did the four big boys do in Picture 2 ?
5. Why did the conductor hold out his arm in Picture 3 ?
6. What had the three small boys to do ?
7. How long had they to wait for the next bus ?
8. Where was the bus in Picture 5 ?
9. What happened to the number 26 bus ?
10. What did the three small boys do in Picture 6 ?

Waiting for a bus



MATERIALS OF CONTROL GROUP IN THE SECOND TREATMENT.

TITLE : WAITING FOR A BUS

DAY/DATE : Friday, 14 November 1997.

PROCEDURES :

- The students are given list of vocabulary and headings based on the title presented.

LIST OF VOCABULARIES :

queue	clock	passenger	bus-stop	bus-conductor
window	hill	driver	engine	tired
pass	come	get on	push	full

HEADINGS :

1. Three boys were waiting for a bus.
2. They were pushed away from the line by the four big boys.
3. The bus was full, waited for another bus.
4. The four big boys' engine was broken.
5. The three boys' bus could pass the first bus.
6. They laughed and mocked at them.

MATERIALS OF THE EXPERIMENTAL GROUP IN THE THIRD TREATMENT.

TITLE : CATCHING A THIEF

DAY/DATE : Thursday, 20 November 1997.

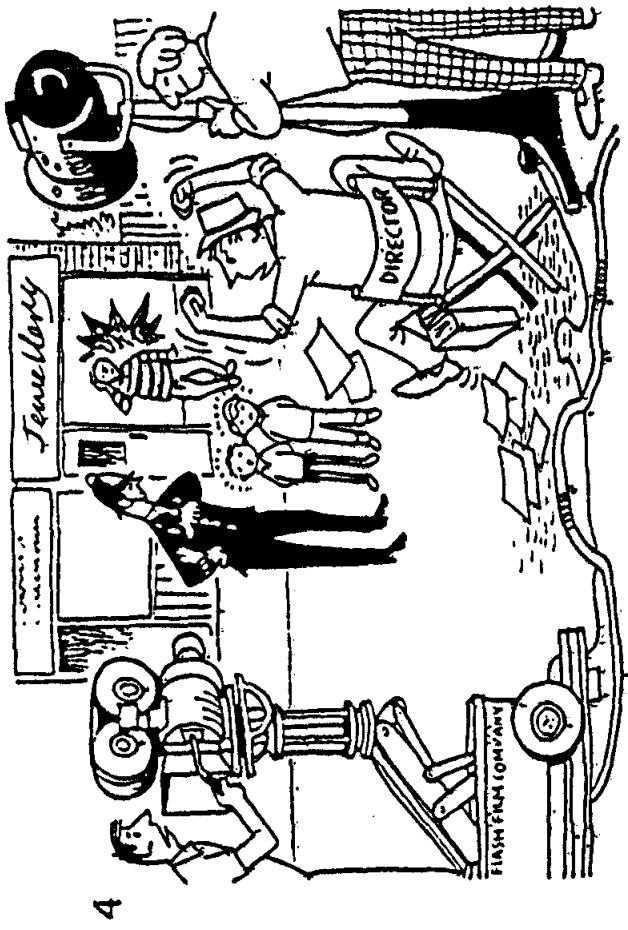
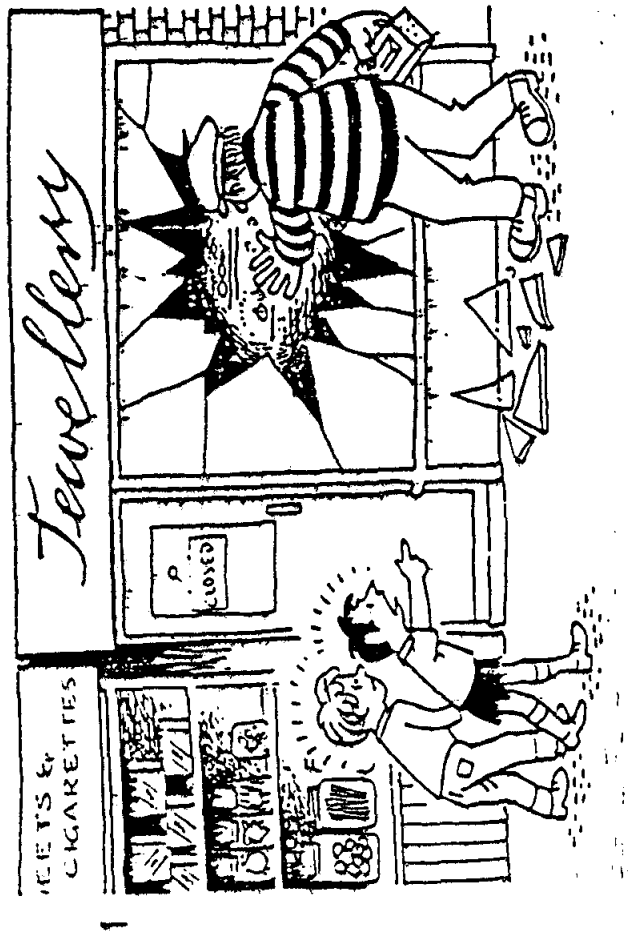
PROCEDURES :

1. The students are given picture-series.
2. The teacher guides the students through some triggering questions to enter the pictures.

TYPES OF QUESTIONS :

1. Where were Bill and Joe in Picture 1 ?
2. What did they hear ?
3. What did they see ?
4. What did the man do in Picture 2 ?
5. What did the boys chase him ?
6. What happened in Picture 3 ?
7. What did the people in this picture do ?
8. Why didn't the policeman in Picture 4 help the boys ?
9. What did he do ?
10. Why was the man in the chair very angry ?

Catching a thief



MATERIALS OF THE CONTROL GROUP IN THE THIRD TREATMENT.

TITLE : CATCHING A THIEF

DAY/DATE : Friday, 21 November 1997.

PROCEDURES :

- The students are given list of vocabularies and headings based on the title presented.

LIST OF VOCABULARIES :

shop	window	watch	thief	film	camera
mistake	surprised	brave	angry	break	(to) notice
approach	steal	chase	catch	fight	believe
spoil	laugh				

HEADINGS :

1. Bill and John went for a walk.
2. They saw a burglar breaking the jewelry shop's window display.
3. They ran after him and attacked him.
4. The director of film got angry.

**MATERIALS OF THE EXPERIMENTAL AND CONTROL GROUP IN THE
POST TEST.**

TITLE : MY MOST EXCITING DAY (IN MY LIFE).

DAY/DATE : Thursday, 4 December 1997.

PROCEDURES :

- The teacher explains about the title and ask the students to write their own experience without any media.

**THE CALCULATION OF TAKING GROUP
AS SAMPLES FOR THE EXPERIMENTS**

NUMBER OF STUDENTS	GROUPS					
	A	B	C	D	E	F
1.	56	51	48	32	56	73
2.	56	53	57	57	46	69
3.	54	40	50	65	43	75
4.	57	30	42	32	61	73
5.	53	56	64	66	49	71
6.	60	55	64	54	53	70
7.	41	68	65	50	43	85
8.	66	49	38	67	46	72
9.	67	47	65	65	46	80
10.	63	54	57	60	33	72
11.	53	58	51	34	53	72
12.	62	37	69	56	48	73
13.	57	65	57	29	51	70
14.	41	53	66	37	42	70
15.	27	53	42	68	62	74
16.	43	56	41	51	46	71
17.	37	48	39	65	37	81
18.	55	53	37	41	27	89
19.	56	67	68	64	62	80
20.	56	35	44	63	50	75
TOTAL	1060	1030	1084	1056	955	1564
MEAN	53	51.5	54.2	52.8	47.75	78.2

CALCULATION FOR TWO MEANS OF THE TEST

NO.	EXPERIMENTAL GROUP		CONTROL GROUP	
	ΣA	ΣA^2	ΣD	ΣD^2
1.	56	3136	32	1024
2.	56	3136	57	3249
3.	54	2916	65	4225
4.	57	3249	32	1024
5.	53	2809	66	4356
6.	60	3600	54	2916
7.	41	1681	50	2500
8.	66	4356	67	4489
9.	67	4489	65	4225
10.	63	3969	60	3600
11.	53	2809	34	1156
12.	62	3844	56	3136
13.	57	3249	29	841
14.	41	1681	37	1369
15.	27	729	68	4624
16.	43	1849	51	2601
17.	37	1369	65	4225
18.	55	3025	41	1681
19.	56	3136	64	4096
20.	56	3136	63	3969
TOTAL	1060	58168	1056	59306
n	20		20	
MEAN	53		52.8	
S D	10.22895		13.66747	

TESTS 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 the mean groups.

2. t-test, where $df. = n_A + n_B - 2 = 38$
 $t(.05/2) = 2.021$

3. Calculation for t observation (t_o) :

A :

===

$$\bar{x} = \frac{\sum x}{n} = 52.8 ; n = 20$$

$$s = \sqrt{\frac{\sum x^2 - (\sum x)^2}{n(n-1)}} = 13.66747$$

B :

===

$$\bar{x} = \frac{\sum x}{n} = 53 ; n = 20$$

$$s = \sqrt{\frac{\sum x^2 - (\sum x)^2}{n(n-1)}} = 10.22895$$

$$\bar{x}_A - \bar{x}_B$$

$$t_o = \frac{\bar{x}_A - \bar{x}_B}{\sqrt{\frac{(n_A-1)s^2_A + (n_B-1)s^2_B}{n_A + n_B - 2} \left(\frac{1}{n_A} + \frac{1}{n_B} \right)}} = -0.052$$

3. CONCLUSION :

Because $|t \text{ observation}| = 0.052393 < t(.05/2)$
 so H_0 is accepted.
 Hence we conclude that at a 0.05 level there is no significant difference between groups.

**MEANS CALCULATION OF
EXPERIMENTAL GROUP AND CONTROL GROUP
ON THE FIRST TREATMENT
“THE BRAVE MOUNTAIN CLIMBER”**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	59.5	3540.25	62	3844
2.	78	6084	74.5	5550.25
3.	66	4356	60.5	3660.25
4.	84	7056	67	4489
5.	79	6241	69	4761
6.	89.5	8010.25	76.5	5852.25
7.	89	7921	83	6889
8.	77.5	6006.25	67.25	4556.25
9.	77	5929	68	4624
10.	73.5	5402.25	70.5	4970.25
11.	70.5	4970.25	67	4489
12.	78.5	6162.25	54	2916
13.	59.5	3540.25	74.5	5550.25
14.	89.5	8010.25	52.5	2756.25
15.	77.5	6006.25	66.5	4422.25
16.	82	6724	66	4356
17.	71.5	5112.25	70.5	4970.25
18.	77	5929	67	4489
19.	57	3249	74.5	5550.25
20.	60.5	3660.25	68	4624
	1496.5	113909.75	1359	93319.5
	$\bar{X} = 74.825$		$\bar{X} = 67.95$	

TEST OF HYPOTHESES:

1. $H_0 : \mu_A = \mu_D$, there is no difference between the mean groups.
 $H_a : \mu_A > \mu_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) of the First Treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 74,825 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 10,08943559$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 67,95 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 7,16516$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 1,7617760$$

4. CONCLUSION:
Because t_o observation/ $= 1,7617760 > t(0,05)$ so H_0 is rejected.
Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION BASED
ON THE CONTENT ACHIEVEMENT
OF THE FIRST TREATMENT
"THE BRAVE MOUNTAIN CLIMBER"**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	25,5	650,25	21	441
2.	22,5	506,25	22,5	506,25
3.	21,5	462,25	19	361
4.	26	676	20,5	420,25
5.	25	625	22	484
6.	26,5	702,25	26	676
7.	26	676	27	729
8.	23,5	552,25	25	625
9.	25	625	22	484
10.	24	576	24	576
11.	22,5	506,25	19,5	380,25
12.	25,5	650,25	16,5	275,25
13.	19	361	21,5	462,25
14.	27,5	756,25	18,5	342,25
15.	26,5	702,25	20,5	420,25
16.	26	676	22	484
17.	26,5	702,25	24	576
18.	23,5	552,25	19	361
19.	27,5	756,25	22,5	506,25
20.	18,5	342,25	22	484
	488,5	12056,25	435	9591
	$\bar{X} = 24,425$		$\bar{X} = 21,75$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.

$H_a : m_A > m_D$, mean score of A group is greater than D group.

2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$

3. Calculation for t observation (to) of the First Treatment's Content Achievement:

A : EXPERIMENT

=

$$\bar{x} = \frac{\sum x}{n} = 24,425 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,561224$$

D = CONTROL

=

$$\bar{x} = \frac{\sum x}{n} = 21,75 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,613225$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 3,2693718$$

4. CONCLUSION:

Because/t observation/ = 3,2693718 > t(0,05) so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

MEANS CALCULATION BASED
ON THE ORGANIZATION ACHIEVEMENT
OF THE FIRST TREATMENT
"THE BRAVE MOUNTAIN CLIMBER"

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	18,5	342,25	15,5	240,25
2.	20	400	15	225
3.	12,5	156,25	14	196
4.	18	324	14	196
5.	16,5	272,25	12,5	156,25
6.	20	400	18	324
7.	20	400	17	289
8.	17	289	18	324
9.	18,5	342,25	12,5	156,25
10.	15	225	14,5	210,25
11.	16	256	14	196
12.	15,5	240,25	10,5	110,25
13.	18,5	342,25	15	225
14.	18,5	342,25	10	100
15.	17	289	16	256
16.	18	324	16	256
17.	12,5	156,25	14,5	210,25
18.	17	289	14,5	210,25
19.	12,5	156,25	15,5	240,25
20.	9	81	12,5	156,25
	330,5	5627,25	289,5	4277,25
	$\bar{X} = 16,525$		$\bar{X} = 14,475$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D groups.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (t_o) based on the organization achievement of the first treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 16,525 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,953477$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 14,475 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,136617$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 2,5150$$

4. CONCLUSION:
Because $t_o = 2,5150 > t(0,05)$ so H_0 is rejected.
Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION OF
EXPERIMENTAL GROUP AND CONTROL GROUP
ON THE SECOND TREATMENT
“WAITING FOR A BUS”**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	89.5	8010.25	80.5	6480.25
2.	87.5	7656.25	58	3364
3.	86	7396	57	3249
4.	73	5329	86	7396
5.	74	5476	90	8100
6.	72.5	5256.25	82.5	6806.25
7.	71	5041	79.5	6320.25
8.	74.5	5550.25	66.5	4422.25
9.	72	5184	77.5	6006.25
10.	88	7744	76.5	5852.25
11.	72	5184	83	6889
12.	84	7056	76	5776
13.	96.5	9312.25	71.5	5112.25
14.	94.5	8930.25	82	6724
15.	77.5	6006.25	67.5	4556.25
16.	94.5	8930.25	70	4900
17.	68	4624	79.5	6320.25
18.	96.5	9312.25	66	4356
19.	81.5	6642.25	70.5	4970.25
20.	97	9409	84.5	7140.25
	1650	138049.5	1504.5	114740.75
	$\bar{X} = 82.5$		$\bar{X} = 75.225$	

TEST OF HYPOTHESES:

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

2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$

3. Calculation for t observation (to) of the Second Treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 82,5 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 10,064267$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 75,225 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 9,0749366$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n_A(n_A-1)s_A^2 + n_D(n_D-1)s_D^2}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 2,4008205$$

4. CONCLUSION:

Because $t_{\text{observation}} = 2,4008205 > t(0,05)$ so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

MEANS CALCULATION BASED
ON THE CONTENT ACHIEVEMENT
OF THE SECOND TREATMENT
"WAITING FOR A BUS"

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	27	729	24,5	600,25
2.	26,5	702,25	24	576
3.	29	841	25,5	650,25
4.	21,5	462,25	27	729
5.	24	576	18	324
6.	22,5	506,25	18	324
7.	22	484	21	441
8.	22,5	506,25	22,5	506,25
9.	23,5	552,25	27,5	756,25
10.	28,5	812,25	16	256
11.	25,5	650,25	26,5	702,25
12.	25,5	650,25	17	289
13.	27	729	18	324
14.	29	841	28,5	812,25
15.	29	841	22,5	506,25
16.	29	841	21,5	462,25
17.	23,5	552,25	23,5	552,25
18.	29,5	870,25	24	576
19.	27,5	756,25	26,5	706,25
20.	29,5	870,25	23,5	552,25
	522	13773	455,5	10641,75
	$\bar{X} = 26,1$		$\bar{X} = 22,775$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) of the Second Treatment's Content Achievement:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 26,1 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,798496$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 22,775 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 3,753858$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 3,175825$$

4. CONCLUSION:

Because/t observation/ = 3,175825 > t(0,05) so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

MEANS CALCULATION BASED
ON THE ORGANIZATION ACHIEVEMENT
OF THE SECOND TREATMENT
"WAITING FOR A BUS"

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	19,5	380,25	11,5	132,25
2.	20	400	12,5	156,25
3.	20	400	13,5	182,25
4.	18,5	342,25	15,5	240,25
5.	16	256	15	225
6.	18,5	342,25	12	144
7.	18	324	13	169
8.	13,5	182,25	12	144
9.	20	400	18	324
10.	16,5	272,25	15	225
11.	15,5	240,25	13	169
12.	18	324	12,5	156,25
13.	19	361	15	225
14.	20	400	17,5	306,25
15.	18,5	342,25	12,5	156,25
16.	18,5	342,25	10,5	110,25
17.	15,5	240,25	12,5	156,25
18.	19,5	380,25	13,5	182,25
19.	19,5	380,25	17,5	306,25
20.	20	400	16,5	272,25
	364,5	6709,75	279	3982
	$\bar{X} = 18,225$		$\bar{X} = 13,95$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) based on organization achievement of the second treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 18,255 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 1,8741673$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 13,95 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,175824$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 10,36866$$

4. CONCLUSION:

Because/t observation/ = 10,36866 > t(0,05) so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION OF
EXPERIMENTAL GROUP AND CONTROL GROUP
ON THE THIRD TREATMENT
“CATCHING A THIEF”**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	89	7921	67	4489
2.	87	7569	66	4356
3.	96.5	9312.25	69.5	4830.25
4.	72.5	5256.25	75.5	5700.25
5.	70.5	4970.25	74.5	5550.25
6.	74.5	5550.25	63	3969
7.	60	3600	63	3969
8.	68.5	4692.25	64.5	4160.25
9.	67	4489	87.5	7656.25
10.	74.5	5550.25	72.5	5256.25
11.	67.5	4556.25	68	4624
12.	88.5	7832.25	64.5	4160.25
13.	96	9216	77	5929
14.	97.5	9506.25	86.5	7482.25
15.	88	7744	69.5	4830.25
16.	95.5	9120.25	63.5	4032.25
17.	71	5041	67.5	4556.25
18.	92.5	8556.25	79.5	6320.25
19.	91.5	8372.25	84.5	7140.25
20.	95.5	9120.25	83.5	6972.25
	1643.5	137975.25	1447	105983.5
	$\bar{X} = 82.175$		$\bar{X} = 72.35$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) of the Third Treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 82,175 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 12,398291$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 72,35 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 8,2495614$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{nA + nD - 2} \left(\frac{1}{nA} + \frac{1}{nD} \right)}} = 3,1231590$$

4. CONCLUSION:
Because t_o observation/ $= 3,123159 > t(0,05)$ so H_0 is rejected.
Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION BASED
ON THE CONTENT ACHIEVEMENT
OF THE THIRD TREATMENT
"CATCHING A THIEF"**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	27,5	756,25	20,5	420,25
2.	27	729	22,5	420,25
3.	29,5	870,25	21	441
4.	21,5	462,25	22,5	306,25
5.	23,5	552,25	26,5	702,25
6.	24,5	600,25	18	324
7.	21	441	17,5	306,25
8.	21	441	21	441
9.	19,5	380,25	25,5	650,25
10.	25,5	650,25	24	376
11.	26,5	702,25	20,5	420,25
12.	29	841	19,5	380,25
13.	30	900	23,5	352,25
14.	30	900	28	784
15.	28,5	812,25	20,5	420,25
16.	30	900	19	361
17.	24	576	20	400
18.	28,5	812,25	27,5	736,25
19.	29	841	24,5	600,25
20.	30	900	26	676
	526	14067,5	446	10138
	$\bar{X} = 26,3$		$\bar{X} = 22,3$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.

2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$

3. Calculation for t observation (to) of the Third Treatment's Content Achievement:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 26,3 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 3,507136$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 22,3 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 3,180533$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (n(D-1)s^2_D)}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 3,78475$$

4. CONCLUSION:

Because $t_{\text{observation}} = 3,78475 > t(0,05)$ so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

MEANS CALCULATION BASED
ON THE ORGANIZATION ACHIEVEMENT
OF THE THIRD TREATMENT
"CATCHING A THIEF"

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	18	324	16,5	272,25
2.	19	361	10,5	110,25
3.	16,5	272,25	11	121
4.	16	256	17,5	306,25
5.	18	324	19	361
6.	20	400	17,5	306,25
7.	18	324	18,5	342,25
8.	18,5	342,25	13	169
9.	16	256	14,5	210,25
10.	19	361	15	225
11.	13,5	182,25	17	289
12.	20	400	15	225
13.	18,5	342,25	13	169
14.	19	361	18	324
15.	18,5	342,25	13,5	182,25
16.	19	361	14	196
17.	14	196	17,5	306,25
18.	20	400	13,5	182,25
19.	19,5	380,25	14	196
20.	19	361	17	289
	360	6546,5	305,5	4782,25
	$\bar{X} = 18$		$\bar{X} = 15,275$	

TEST OF HYPOTHESES:

1. $H_0 : \mu_A = \mu_D$, there is no difference between the mean groups.
 $H_a : \mu_A > \mu_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (t_o) based on the organization achievement of the third treatment:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 18 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 1,87083$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 15,275 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,468086$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 3,93496$$

4. CONCLUSION:

Because t_o observation/ $= 3,93496 > t(0,05)$ so H_0 is rejected.
Hence we conclude that at a 0,05 level there is significant difference between.

**MEANS CALCULATION OF
EXPERIMENTAL GROUP AND CONTROL GROUP ON THE POST TEST
"MY MOST EXCITING DAY"**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	83	6889	82.5	6806.25
2.	83.5	6972.5	72.5	5256.25
3.	96	9216	81.5	6642.25
4.	76.5	5852.25	62.5	3906.25
5.	67.5	4556.25	61	3721
6.	68	4624	78	6084
7.	68.5	4692.25	69.5	4830.25
8.	70	4900	76	5776
9.	77.5	6006.25	88	7744
10.	93.5	8742.25	54	2916
11.	81	6561	91	8281
12.	81.5	6642.25	67	4489
13.	90.5	8190.5	70.5	4970.25
14.	95	9025	90	8100
15.	95	9025	75.5	5700.25
16.	94	8836	78	6084
17.	77.5	6006.25	81	6561
18.	96	9216	84	7056
19.	87.5	7656.25	89	7921
20.	93	8649	80	6400
	1675	142257.5	1531.5	119244.75
	$\bar{X} = 83.75$		$\bar{X} = 76.575$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) of the Post Test:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 83,75 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 10,198684$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 76,575 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 10,182893$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 2,2264552$$

4. CONCLUSION:
Because $t_{\text{observation}} = 2,2264552 > t(0,05)$ so H_0 is rejected.
Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION BASED
ON THE CONTENT ACHIEVEMENT
OF THE POST TEST
"MY MOST EXCITING DAY"**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	28,5	812,25	24,5	600,25
2.	27,5	756,25	22	484
3.	28	784	21	441
4.	20,5	420,25	25,5	650,25
5.	24,5	600,25	26,5	702,25
6.	22,5	506,25	27,5	756,25
7.	22	484	27	729
8.	22	484	21	441
9.	22	484	22,5	506,25
10.	26	676	22	484
11.	24	576	27,5	756,25
12.	28,5	812,25	26	676
13.	29,5	870,25	23	529
14.	29,5	870,25	27,5	756,25
15.	28	784	19,5	380,25
16.	28,5	812,25	21,5	462,25
17.	24	576	24,5	600,25
18.	29,5	870,25	18,5	342,25
19.	27,5	756,25	20,5	420,25
20.	28,5	812,25	27	729
	521	13747	475	11446
	$\bar{X} = 26,05$		$\bar{X} = 23,75$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (t_o) of the Post Test Based on the Content Achievement:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 26,05 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 3,0344513$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 23,75 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,944665$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (nD-1)s^2_D}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 2,4326010$$

4. CONCLUSION:

Because t_o observation/ = 2,4326010 > $t(0,05)$ so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

**MEANS CALCULATION BASED
ON THE ORGANIZATION ACHIEVEMENT
OF THE POST TEST
"MY MOST EXCITING DAY"**

NO.	EXPERIMENTAL GROUP (GROUP A)		CONTROL GROUP (GROUP D)	
	x	x ²	x	x ²
1.	17	289	18	324
2.	17	289	14	196
3.	20	400	18	324
4.	17,5	306,25	17	289
5.	18,5	342,25	12,5	156,25
6.	16,5	272,25	13	169
7.	14,5	210,25	13	169
8.	20	400	16	256
9.	19,5	380,25	18,5	342,25
10.	19,5	380,25	10,5	110,25
11.	19,5	380,25	18	324
12.	17,5	306,25	15,5	240,25
13.	20	400	14,5	210,25
14.	19,5	380,25	18	324
15.	18,5	342,25	15	225
16.	20	400	17,5	306,25
17.	16,5	272,25	17	289
18.	19,5	380,25	19	361
19.	18,5	342,25	18	324
20.	16,5	272,25	16,5	272,25
	366	6745,5	319,5	5211,75
	$\bar{X} = 18,3$		$\bar{X} = 15,975$	

TEST OF HYPOTHESES:

1. $H_0 : m_A = m_D$, there is no difference between the mean groups.
 $H_a : m_A > m_D$, mean score of A group is greater than D group.
2. t-test, where $df. = n_A + n_D - 2 = 38$
 $t(0,05) = 1,725$
3. Calculation for t observation (to) based on the organization achievement of Post Test:

A : EXPERIMENT
=

$$\bar{x} = \frac{\sum x}{n} = 18,3 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 1,58446$$

D = CONTROL
=

$$\bar{x} = \frac{\sum x}{n} = 15,975 \quad ; \quad n = 20$$

$$s = \sqrt{\frac{n \sum x^2 - (\sum x)^2}{n(n-1)}} = 2,38126$$

$$t_o = \frac{\bar{x}_A - \bar{x}_D}{\sqrt{\frac{n(A-1)s^2_A + (n_D-1)s^2_D}{n_A + n_D - 2} \left(\frac{1}{n_A} + \frac{1}{n_D} \right)}} = 3,63525$$

4. CONCLUSION:

Because/t observation/ = 3,63525 > t(0,05) so H_0 is rejected.

Hence we conclude that at a 0,05 level there is significant difference between groups.

ESL COMPOSITION PROFILE

STUDENT

DATE

TOPIC

SCORE LEVEL CRITERIA

CONTENT

- 18-22 EXCELLENT TO VERY GOOD: knowledgeable • subjective • adequate development of thesis • relevant to assigned topic
- 16-22 GOOD TO AVERAGE: some knowledge of subject • adequate range • limited development of thesis • mostly relevant to topic, but lacks detail
- 11-17 FAIR TO POOR: limited knowledge of subject • little substance • inadequate development of topic
- 1-10 VERY POOR: does not show knowledge of subject • non-substantive • not pertinent • OR not enough to evaluate

ORGANIZATION

- 18-22 EXCELLENT TO VERY GOOD: clear expression • ideas clearly stated/supported • succinct • well-organized • logical sequencing • cohesive
- 17-22 GOOD TO AVERAGE: somewhat coherent • loosely organized but with ideas stated • limited support, logical but incomplete sequencing
- 11-18 FAIR TO POOR: non-fluent • ideas confused or disconnected • lacks logical sequencing and development
- 1-7 VERY POOR: does not communicate • no organization • OR not enough to evaluate

LANGUAGE

- 18-22 EXCELLENT TO VERY GOOD: sophisticated range • effective word/idea choice and usage • word form mastery • appropriate register
- 17-22 GOOD TO AVERAGE: adequate range • occasional errors of word/idea form, choice, usage but meaning not obscured
- 11-18 FAIR TO POOR: limited range • frequent errors of word/idea form, choice, usage • meaning confused or obscured
- 1-7 VERY POOR: essentially translation • little knowledge of English vocabulary, ideas, word form • OR not enough to evaluate

GRAMMAR

- 18-22 EXCELLENT TO VERY GOOD: effective complex construction • few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions
- 11-22 GOOD TO AVERAGE: effective but simple construction • clear problems in complex construction • several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured
- 17-22 FAIR TO POOR: major problems in simple/complex construction • frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions • meaning confused or obscured
- 1-8 VERY POOR: virtually no mastery of sentence construction rules • defeated by errors • does not communicate • OR not enough to evaluate

MECHANICS

- 18 EXCELLENT TO VERY GOOD: demonstrates mastery of conventions • few errors of spelling, punctuation, capitalization, paragraphing
- 16 GOOD TO AVERAGE: occasional errors of spelling, punctuation, capitalization, paragraphing but meaning not obscured
- 11 FAIR TO POOR: frequent errors of spelling, punctuation, capitalization, paragraphing • poor handwriting • meaning confused or obscured
- 1-10 VERY POOR: no mastery of conventions • defeated by errors of spelling, capitalization, punctuation, paragraphing • handwriting illegible • OR not enough to evaluate

TOTAL SCORE

READER

COMMENTS

THE EXPERIMENT RESULTS BASED ON THE WRITING ASSIGNMENTS

Number of Students	TREATMENT (I)		TREATMENT (II)		TREATMENT (III)		POST TEST	
	X	X ²	X	X ²	X	X ²	X	X ²
1.	59,5	3540,25	89,5	8010,25	89	7921	83	6889
2.	78	6084	87,5	7656,25	87	7569	83,5	6972,5
3.	66	4356	86	7396	96,5	9312,25	96	9216
4.	84	7056	73	5329	72,5	5256,25	68	4624
5.	79	6241	74	5476	70,5	4970,25	76,5	5852,25
6.	89,5	8010,25	72,5	5296,25	74,5	5550,25	67,5	4556,25
7.	89	7921	71	5041	60	3600	68,5	4692,25
8.	77,5	6006,25	74,5	5550,25	68,5	4692,25	70	4900
9.	77	5929	72	5184	67	4489	77,5	6006,25
10.	73,5	5402,25	88	7744	74,5	5550,25	93,5	8742,25
11.	70,5	4970,25	72	5184	67,5	4556,25	81	6561
12.	78,5	6162,25	84	7056	88,5	7832,25	81,5	6642,25
13.	59,5	3540,25	96,5	9312,25	96	9216	90,5	8190,25
14.	89,5	8010,25	94,5	8930,25	97,5	9506,25	95	9025
15.	77,5	6006,25	77,5	6006,25	88	7744	95	9025
16.	82	6724	94,5	8930,25	95,5	9120,25	94	8836
17.	71,5	5112,25	68	4624	71	5041	77,5	6006,25
18.	77	5929	96,5	9312,25	92,5	8556,25	96	9216
19.	57	3249	81,5	6642,25	91,5	8372,25	87,5	7656,25
20.	60,5	3660,25	97	9409	95,5	9120,25	93	8649
	1496,5	113909,75	1650	138049,5	1643,5	137975,25	1675	142257,5
$\bar{X} =$	74,825		82,5		82,175		83,75	

THE CONTROL RESULTS BASED ON THE WRITING ASSIGNMENTS

Number of Students	TREATMENT (I)		TREATMENT (II)		TREATMENT (III)		POST TEST	
	X	X ²	X	X ²	X	X ²	X	X ²
1.	62	3844	80,5	6480,25	67	4489	82,5	6806,25
2.	74,5	5550,25	58	3364	66	4356	72,5	5256,25
3.	60,5	3660,25	57	3249	69,5	4830,25	81,5	6642,25
4.	67	4489	86	7396	75,5	5700,25	78	6084
5.	69	4761	90	8100	74,5	5550,25	62,5	3906,25
6.	76,5	5852,25	82,5	6806,25	63	3969	61	3721
7.	83	6889	79,5	6320,25	63	3969	69,5	4830,25
8.	67,5	4556,25	66,5	4422,25	64,5	4160,25	76	5776
9.	68	4624	77,5	6006,25	87,5	7656,25	88	7744
10.	70,5	4970,25	76,5	5852,25	72,5	5256,25	54	2916
11.	67	4489	83	6889	68	4624	91	8281
12.	54	2916	76	5776	64,5	4160,25	67	4489
13.	74,5	5550,25	71,5	5112,25	77	5929	70,5	4970,25
14.	52,5	2756,25	82	6724	86,5	7482,25	90	8100
15.	66,5	4422,25	67,5	4556,25	69,5	4830,25	75,5	5700,25
16.	66	4356	70	4900	63,5	4032,25	78	6084
17.	70,5	4970,25	79,5	6320,25	67,5	4556,25	81	6561
18.	67	4489	66	4356	79,5	6320,25	84	7056
19.	74,5	5550,25	70,5	4970,25	84,5	7140,25	89	7921
20.	68	4624	84,5	7140,25	83,5	6972,25	80	6400
	$\Sigma x = 1359$	$\Sigma x^2 = 93319,5$	$\Sigma x = 1504,5$	$\Sigma x^2 = 114740,7$	$\Sigma x = 1447$	$\Sigma x^2 = 105983,5$	$\Sigma x = 1531,5$	$\Sigma x^2 = 119244,75$
$\bar{x} =$	$\bar{x} = 67,95$		$\bar{x} = 75,225$		$\bar{x} = 72,35$		$\bar{x} = 76,575$	

The Findings Based on the Writing Assignments

TITLES	TECHN.	X	SD	t-table	obtained-t
The Brave Mountain Climber (First Tr.)	PS LV	74.825 67.95	10.089436 7.16516	1.725	1.7617760
Waiting for a Bus (Second Treatment)	PS LV	82.5 75.225	10.064267 9.0749366	1.725	2.4008205
Catching a Thief (Third Treatment)	PS LV	82.175 72.35	12.398291 8.2495614	1.725	3.123159
My Most Exciting Day (Post Test)	PS LV	83.75 76.575	10.198684 10.182893	1.725	2.2264552

**THE FINDINGS BASED ON THE LEVEL CRITERIA
TYPE OF ESL GUIDELINES**

TOPIC	LEVEL OF CRITERIA	TECH	X	SD	t-table	obtained-t	S/NS
The Brave Mountain Climber (First Treatment).	Content	PS LV	24.425 21.75	2.561224 2.613225	1.725	3.26937	S
	Organization	PS LV	16.525 14.475	2.953477 2.136617	1.725	2.5150	S
Waiting for a Bus (Second Treatment)	Content	PS LV	26.1 22.775	2.798496 3.753858	1.725	3.175825	S
	Organization	PS LV	18.225 13.95	1.874167 2.175824	1.725	10.36866	S
Catching a Thief (Third Treatment)	Content	PS LV	26.3 22.3	3.507136 3.180553	1.725	3.78475	S
	Organization	PS LV	18 15.275	1.87083 2.468086	1.725	3.93496	S
My Most Exciting Day (Post Test)	Content	PS LV	26.05 23.75	3.034451 2.944665	1.725	2.43260	S
	Organization	PS LV	18.3 15.975	1.58446 2.38126	1.725	3.63525	S

where :

PS = Picture-series

LV= List of Vocabulary

X = the means

SD= Standard Deviation

S = Significant

NS = Non Significant