

## Lampiran 1

### Rekapitulasi Nilai *Pre Test* Kelas Ekperimen

NO	Nama	Kriteria Penskoran					Skor	Nilai Akhir
		1	2	3	4	5		
1	Arya Kusuma Surbakti	5	5	5	5	5	100	25
2	Jessika Hutajulu	10	5	10	5	0	100	30
3	Monika Helena Br Ginting	5	5	10	5	5	100	30
4	Diah Mutiara Luana	20	5	0	5	0	100	30
5	Muhammad Affan	15	10	5	5	0	100	35
6	Indri Kristiani Halawa	10	10	5	5	5	100	35
7	Isak Angga Oktavian Barus	15	20	5	5	0	100	45
8	Nia Ramadani	25	5	5	5	5	100	45
9	M Saban Rahmadani	10	5	5	15	10	100	45
10	Meisya Geovani P Br G	10	5	20	5	5	100	45
11	Messy Avinsa	15	5	10	15	5	100	50
12	Mikael Sinaga Mandalahi	20	5	15	10	0	100	50
13	Aqilah Saphira	20	10	10	5	5	100	50
14	Vifky Febiana Alamsyah	25	10	10	5	5	100	55
15	Risky Aditya Purba	15	10	15	10	5	100	55
16	Putri Anisa	20	10	10	10	5	100	55
17	Talita Mutiara Saragih	25	15	5	10	5	100	60
18	Raisya Marwa Afilla	25	10	15	15	10	100	75
19	Tini Arni Halawa	15	15	15	20	10	100	75
20	Viona Eglesia Simarmata	20	15	20	15	10	100	80

$$\text{Nilai} = \frac{\text{SkorPerolehan}}{\text{SkorMaksimal}} \times 100$$

**Pembimbing I**

**Tina Sheba Cornelia Sitompul S.Pd.,M.Pd**

## Lampiran 2

### Rekapitulasi Nilai *Pre Test* Kelas Kontrol

NO	Nama	Kriteria Penskoran	Skor	Nilai
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		1	2	3	4	5		Akhir
1	Excal Barcarow	5	0	0	0	0	100	5
2	Farel yuky dwiutama	5	5	5	0	5	100	20
3	putri grace	5	10	5	5	0	100	25
4	Citra Afrilia	5	5	5	5	10	100	30
5	Artur ceristian naingolan	5	15	5	5	5	100	35
6	Andi anus Ndruru	10	10	5	10	0	100	35
7	Davina Fariza	10	5	15	5	5	100	40
8	Damar Alparosi	10	15	15	0	5	100	45
9	Gian marvail	10	15	10	5	5	100	45
10	Debora Novitasari sitepu	10	20	10	5	5	100	50
11	Gisel alexa	20	10	10	10	0	100	50
12	Salma	15	15	10	5	5	100	50
13	elsa debora	10	10	10	15	10	100	55
14	Vikas stevanus	20	15	10	5	5	100	55
15	Gladys Pricila	15	10	10	15	5	100	55
16	Bela Aprilia	10	15	10	10	10	100	55
17	Manisa wilen	20	10	10	10	5	100	55
18	Eusy Kalfalarissa sagala	15	15	15	5	5	100	55
19	Frans Jaya sitinjak	10	15	10	15	5	100	55
20	Edwart Aprilio sihite	20	15	10	10	5	100	60
21	Radia Nugraha	20	20	10	5	5	100	60
22	Calista leonora	20	15	10	10	5	100	60
23	Cahaya aprilia	15	20	10	10	5	100	60

$$\text{Nilai} = \frac{\text{SkorPerolehan}}{\text{SkorMaksimal}} \times 100$$

**Pembimbing I**

**Tina Sheba Cornelia Sitompul S.Pd.,M.Pd**

### **Lampiran 3**

**Perhitungan Rata-Rata, Simpangan Baku dan Normalitas Data Hasil *Pre Test* Kelas Eksperimen**

No	$x_i$	$f_i$	$f_i x_i$	$x_i^2$	$f_i x_i^2$
1	25	1	25	625	625
2	30	3	90	900	2700
3	35	2	70	1225	2450
4	40	1	40	1600	1600
5	45	3	135	2025	6075
6	50	3	150	2500	7500
7	55	3	165	3025	9075
8	60	1	60	3600	3600
9	75	2	150	5625	11250
10	80	1	80	6400	6400
$\Sigma$		20	965	27525	51275

### Menghitung Rata-Rata

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

$$\bar{x} = \frac{965}{20}$$

$$\bar{x} = 48,25$$

$$\bar{x} = 48$$

### Menghitung Simpangan Baku

$$S^2 = \frac{n(\sum f_i x_i^2) - (\sum f_i x_i)^2}{n(n-1)}$$

$$S^2 = \frac{20(51275) - (965)^2}{20(20-1)}$$

$$S = \frac{(1025500) - (931225)}{20(19)}$$

$$S = \sqrt{\frac{94275}{380}}$$

$$S = \sqrt{248,09210526315}$$

$$S = 15,750939821583$$

$$S = 16$$

No	$x_i$	$f_i$	$f_{kum}$	$z_i$	Luas $z_i$	$F(z_i)$	$S(z_i)$	$F(z_i) - S(z_i)$
1	25	1	1	-1,44	0,4207	0,0793	0,0500	-0,0293
2	30	3	4	-1,13	0,3708	0,1292	0,2000	0,0708

3	35	2	6	-0,81	0,2939	0,2061	0,3000	0,0939
4	40	1	7	-0,50	0,1950	0,3050	0,3500	0,0450
5	45	3	10	-0,19	0,091	0,4090	0,5000	0,0910
6	50	3	13	0,13	0,0517	0,5517	0,6500	0,0983
7	55	3	16	0,44	0,1664	0,6664	0,8000	<b>0,1336</b>
8	60	1	17	0,75	0,291	0,7910	0,8500	0,0590
9	75	2	19	1,69	0,4573	0,9573	0,9500	0,0073
10	80	1	20	2,00	0,4778	0,9778	1,0000	0,0222
<b>Σ</b>		<b>20</b>						

$$L_0 = 0,1336$$

$$a = 0,05$$

$$n = 20$$

$$L_{(axn)} = L_{(0.05)(20)}$$

Karena terdapat nilai distribusi  $L_{(0.05)(20)} = 0.190$

Maka  $L_0 = 0,1336 < L_{(0.05)(20)} = 0,190$

Kesimpulan : Terima  $H_0$  atau Data Berdistribusi Normal

#### Lampiran 4

#### **Perhitungan Rata-Rata, Simpangan Baku dan Normalitas Data Hasil *Pre Test* Kelas Kontrol**

No	$x_i$	$f_i$	$f_i x_i$	$x_i^2$	$f_i x_i^2$
1	5	1	5	25	25
2	20	1	20	400	400
3	25	1	25	625	625
4	30	1	30	900	900
5	35	2	70	1225	2450
6	40	1	40	1600	1600
7	45	3	135	2025	6075
8	50	2	100	2500	5000

9	55	7	385	3025	21175
10	60	4	240	3600	14400
<b>Σ</b>		<b>23</b>	<b>1050</b>	<b>15925</b>	<b>52650</b>

### Menghitung Rata-Rata

$$\bar{x} = \frac{\sum f_i \cdot x_i}{\sum f_i}$$

$$\bar{x} = \frac{1050}{23}$$

$$\bar{x} = 45,65$$

$$\bar{x} = 46$$

### Menghitung Simpangan Baku

$$S^2 = \frac{n(\sum f_i \cdot x_i^2) - (\sum f_i \cdot x_i)^2}{n(n-1)}$$

$$S^2 = \frac{23(52650) - (1050)^2}{23(23-1)}$$

$$S^2 = \frac{(1210950) - (1102500)}{23(22)}$$

$$S = \sqrt{\frac{108450}{506}}$$

$$S = \sqrt{214,32806324110}$$

$$S = 14,639947514970$$

$$S = 15$$

No	$x_i$	$f_i$	$f_{kum}$	$z_i$	Luas $z_i$	$F(z_i)$	$S(z_i)$	$F(z_i) - S(z_i)$
1	5	1	1	-2,73	0,4968	0,0032	0,0435	0,0403
2	20	1	2	-1,73	0,4582	0,0418	0,0870	0,0452
3	25	1	3	-1,40	0,4192	0,0808	0,1304	0,0496
4	30	1	4	-1,06	0,3554	0,1446	0,1739	0,0293
5	35	2	6	-0,73	0,2673	0,2327	0,2609	0,0282
6	40	1	7	-0,40	0,1554	0,3446	0,3043	0,0403
7	45	3	10	-0,06	0,02339	0,4766	0,4348	0,0418
8	50	2	12	0,26	0,1026	0,6026	0,5217	0,0809
9	55	7	19	0,60	0,2258	0,7258	0,8261	0,1003
10	60	4	23	0,93	0,3658	0,8658	1,0000	<b>0,1342</b>

$\Sigma$		<b>23</b>						
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$$L_0 = 0,1342$$

$$a = 0,05$$

$$n = 23$$

Karena tidak terdapat nilai distribusi  $L_{(0,05)(23)}$  di dalam tabel, maka dicari dengan interpolasi sebagai berikut:

$$L_{(0,05)(20)} = 0,190$$

$$L_{(0,05)(25)} = 0,173$$

$$\frac{0,190}{20} \quad \frac{L_{(0,05)(23)}}{23} \quad \frac{0,173}{25}$$

$$\frac{L_{(0,05)(23)} - 0,190}{0,173 - 0,190} = \frac{23 - 20}{25 - 20}$$

$$L_{(0,05)(22)} - 0,190 = \frac{3}{5}(-0,017)$$

$$L_{(0,05)(22)} = 0,190 - 0,0102$$

$$L_{(0,05)(22)} = 0,1798$$

$$\text{Maka } L_{(0,05)(23)} = 0,1798$$

$$L_0 = 0,1342 < L_{(0,05)(23)} = 0,1798$$

Kesimpulan : Terima  $H_0$  atau Data Berdistribusi Normal

Lampiran 5

### Uji Homogenitas Varians Nilai *Pre Test* Kelas Eksperimen dan Kontrol

Rumusan Hipotesis:

$$H_0: \sigma_1^2 = \sigma_2^2$$

$$H_1: \sigma_1^2 \neq \sigma_2^2$$

$$n_1 = 20$$

$$n_2 = 23$$

$$s_1^2 = 256$$

$$s_2^2 = 225$$

$$F = \frac{\text{Variansterbesar}}{\text{Variansterkecil}}$$

$$F = \frac{s_2^2}{s_1^2}$$

$$F = \frac{256}{225}$$

$$F = 1,1377777$$

$$F = 1,14$$

$$v_1 = n_1 - 1 = 20 - 1 = 19$$

$$v_2 = n_2 - 1 = 23 - 1 = 22$$

$$F_{(a)(v_1, v_2)} = F_{(0.05)(22, 19)}$$

Karena tidak terdapat pada nilai distribusi  $F_{(0.05)(22,19)}$  di dalam tabel, maka dicari dengan interpolasi sebagai berikut:

Interpolasi

$$F_{(0.05)(22,19)} = 1,73$$

$$F_{(0.05)(22,19)} = 1,95$$

$$\frac{1,73}{25} \quad F_{(0.05)(22)(19)} \quad \frac{1,95}{19}$$

$$\frac{F_{(0.05)(22)(19)} - 1,95}{1,73 - 1,95} = \frac{22 - 19}{25 - 19}$$

$$F_{(0.05)(22,19)} - 1,95 = \frac{3}{6} \times (-0,22)$$

$$F_{(0.05)(22,19)} = 1,95 - 0,011$$

$$F_{(0.05)(22,19)} = 1,939$$

$$\text{Maka } F_{(0.05)(22,19)} = 1,939$$

$$F = 1,14 < F_{(0.05)(22,19)} = 1,939$$

Kesimpulan: Terima  $H_0$  atau Kedua Data Homogen



## Uji Kesamaan Dua Rata-Rata Nilai *Pre Test* Kelas Eksperimen dan Kontrol

Rumusan hipotesis:

$$H_0 : \mu_1 = \mu_2$$

$$H_1 : \mu_1 > \mu_2$$

Karena  $\sigma_1 = \sigma_2$ , maka rumus yang digunakan adalah

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$n_1 = 20$$

$$n_2 = 23$$

$$\bar{x}_1 = 48$$

$$\bar{x}_2 = 30$$

$$s_1^2 = 256$$

$$s_2^2 = 289$$

$$s^2 = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

$$s^2 = \sqrt{\frac{(20 - 1)256 + (23 - 1)289}{20 + 23 - 2}}$$

$$s^2 = \sqrt{\frac{(19)256 + (22)289}{41}}$$

$$s^2 = \sqrt{\frac{4864 + 6358}{41}}$$

$$s^2 = \sqrt{\frac{11222}{41}}$$

$$s^2 = \sqrt{273,7073170731707}$$

$$s = 16,5441021839$$

$$s = 16,54$$

$$t = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$t = \frac{48 - 30}{16,54 \sqrt{\frac{1}{20} + \frac{1}{23}}}$$

$$t = \frac{8}{16,54 \sqrt{0,0526315789 473 + 0,0434782608 69565}}$$

$$t = \frac{8}{19,53 \sqrt{0,0961098398 16865}}$$

$$t = \frac{8}{5,1276624942 01764}$$

$$t = 1,560165086732249$$

$$t = 1,560$$

$$dk = (n_1 + n_2 - 2)$$

$$t_{(1-\frac{1}{2}\alpha)(n_1+n_2-2)} = t_{(1-\frac{1}{2}0,05)(23+20-2)}$$

$$= t_{(0,975)(41)}$$

Karena terdapat pada nilai distribusi  $t_{(0,975)(41)}$  di dalam tabel sebagai berikut:

$$t_{(0,975)(41)} = 2,021$$

Karena: -  $t_{(1-\frac{1}{2}\alpha)(n_1+n_2-2)} < t < t_{(1-\frac{1}{2}\alpha)(n_1+n_2-2)}$

$$- t_{(0,975)(40)} < t < t_{(0,975)(40)}$$

$$- 2,021 < 1,560 < 2,021$$

Kesimpulan : Terima  $H_0$  atau Kedua kelas tersebut mempunyai kemampuan yang setara.

Lampiran 6

### Rekapitulasi Nilai *Post Test* V A Kelas Eksperimen

NO	Nama	Kriteria Penskoran					Skor	Nilai Akhir
		1	2	3	4	5		
1	Monika Helena Br Ginting	10	10	10	10	10	100	50
2	Muhammad Affan	20	10	10	5	5	100	50
3	Diah Mutiara Luana	15	10	10	15	5	100	55
4	Arya Kusuma Surbakti	20	15	10	10	5	100	60

5	Jessika Hutajulu	20	10	15	10	15	100	70
6	Vifky Febiana Alamsyah	25	10	15	15	10	100	75
7	Indri Kristiani Halawa	20	15	15	10	15	100	75
8	Risky Aditya Purba	20	15	15	15	15	100	80
9	Isak Angga Oktavian Barus	20	10	25	15	10	100	80
10	Messy Avinsa	20	10	25	15	10	100	80
11	Meisya Geovani P Br Ginting	20	15	25	10	20	100	90
12	Putri Anisa	15	15	25	15	20	100	90
13	Aqilah Saphira	20	15	25	15	20	100	95
14	Mikael Sinaga Mandalahi	15	15	25	15	25	100	95
15	Talita Mutiara Saragih	20	10	25	15	25	100	95
16	M Saban Rahmadani	20	15	25	15	25	100	100
17	Nia Ramadani	20	15	25	15	25	100	100
18	Raisya Marwa Afilla	20	15	25	15	25	100	100
19	Tini Arni Halawa	20	15	25	15	25	100	100
20	Viona Eglesia Simarmata	20	15	25	15	25	100	100

$$\text{Nilai} = \frac{\text{SkorPerolehan}}{\text{SkorMaksimal}} \times 100$$

**Pembimbing I**

**Tina Sheba Cornelia Sitompul S.Pd.,M.Pd**

### Lampiran 7

#### Rekapitulasi Nilai *Post Test* V B Kelas Kontrol

NO	Nama	Kriteria Penskoran					Skor	Nilai Akhir
		1	2	3	4	5		
1	Damar Alparosi	10	5	10	10	5	100	40
2	Andi anus Ndruru	10	10	10	10	0	100	40
3	Citra Afrilia	15	10	5	5	5	100	40
4	Artur ceristian naingolan	15	10	15	5	0	100	45
5	Frans Jaya sitinjak	15	10	20	5	0	100	50
6	Farel yuky dwiutama	15	15	15	5	10	100	60

7	Eusy Kalfalarissa sagala	20	10	10	10	10	100	60
8	Debora Novitasari sitepu	20	15	5	10	10	100	60
9	Gian marvael	15	15	15	10	10	100	65
10	Excal Barcarow	10	10	15	15	15	100	65
11	putri grace	15	10	25	10	10	100	70
12	Edwart Aprilio sihite	15	10	15	10	20	100	70
13	Manisa wilen	20	15	15	15	10	100	75
14	elsa debora	10	15	25	15	10	100	75
15	Salma	15	15	25	15	5	100	75
16	Gisel alexa	25	10	15	15	10	100	75
17	Davina Fariza	20	15	15	10	15	100	75
18	Vikas stevanus	20	15	15	15	15	100	80
19	Bela Aprilia	20	10	25	15	10	100	80
20	Gladys Pricila	20	10	25	15	10	100	80
21	Radia Nugraha	20	15	20	15	15	100	85
22	Cahaya aprilia	20	15	25	10	20	100	90
23	Calista leonora	15	15	25	15	20	100	90

$$\text{Nilai} = \frac{\text{SkorPerolehan}}{\text{SkorMaksimal}} \times 100$$

Pembimbing I

Tina Sheba Carnelia Sitompul S.Pd.,M.Pd

**Perhitungan Rata-Rata, Simpangan Baku dan Normalitas Data Hasil *Post Test* Kelas Eksperimen**

No	$x_i$	$f_i$	$f_i x_i$	$x_i^2$	$f_i x_i^2$
1	50	2	100	2500	5000
2	55	1	55	3025	3025
3	60	1	60	3600	3600
4	70	1	70	4900	4900
5	75	2	150	5625	11250
6	80	3	240	6400	19200
7	90	2	180	8100	16200
8	95	3	285	9025	27075
9	100	5	500	10000	50000
$\Sigma$		<b>20</b>	<b>1640</b>	<b>53175</b>	<b>140250</b>

**Menghitung Rata-Rata**

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

$$\bar{x} = \frac{1640}{20}$$

$$\bar{x} = 82$$

### Menghitung Simpangan Baku

$$S^2 = \frac{n(\sum f_i x_i^2) - (\sum f_i x_i)^2}{n(n-1)}$$

$$S^2 = \frac{20(140250) - (1640)^2}{20(20-1)}$$

$$S^2 = \frac{(2805000) - (2689600)}{20(19)}$$

$$S = \sqrt{\frac{115400}{380}}$$

$$S = \sqrt{303,68421052631}$$

$$S = 17,426537536938$$

$$S = 17$$

No	$x_i$	$f_i$	$f_{kum}$	$z_i$	<i>Luas</i> $z_i$	$F(z_i)$	$S(z_i)$	$F(z_i) - S(z_i)$
1	50	2	2	-1,88	0,4726	0,0274	0,1000	0,0726
2	55	1	3	-1,59	0,4463	0,0537	0,1500	0,0963
3	60	1	4	-1,29	0,4049	0,0951	0,2000	0,1049
4	70	1	5	-0,71	0,2612	0,2388	0,2500	0,0112
5	75	2	7	-0,41	0,1628	0,3372	0,3500	0,0128
6	80	3	10	-0,12	0,0517	0,4483	0,5000	0,0517
7	90	2	12	0,47	0,1985	0,6985	0,6000	0,0985
8	95	3	15	0,76	0,2967	0,7967	0,7500	0,0467
9	100	5	20	1,06	0,3531	0,8531	1,0000	<b>0,1469</b>
<b>Σ</b>		<b>20</b>						

$$L_0 = 0,1469$$

$$a = 0,05$$

$$n = 20$$

$$L_{(axn)} = L_{(0.05)(20)}$$

Karena terdapat nilai distribusi  $L_{(0.05)(20)} = 0.190$

Maka  $L_0 = 0,1469 < L_{(0.05)(20)} = 0,190$

Kesimpulan : Terima  $H_0$  atau Data Berdistribusi Normal

## Lampiran 9

### Perhitungan Rata-Rata, Simpangan Baku dan Normalitas Data Hasil *Post Test* Kelas Kontrol

No	$x_i$	$f_i$	$f_i x_i$	$x_i^2$	$f_i x_i^2$
1	40	3	120	1600	4800
2	45	1	45	2025	2025
3	50	1	50	2500	2500
4	60	3	180	3600	10800
5	65	2	130	4225	8450
6	70	2	140	4900	9800
7	75	5	375	5625	28125
8	80	3	240	6400	19200
9	85	1	85	7225	7225
10	90	2	180	8100	16200
$\Sigma$		<b>23</b>	<b>1545</b>	<b>46200</b>	<b>109125</b>

#### Menghitung Rata-Rata

$$\bar{x} = \frac{\sum f_i x_i}{\sum f_i}$$

$$\bar{x} = \frac{1545}{23}$$

$$\bar{x} = 67,173913$$

$$\bar{x} = 67$$

#### Menghitung Simpangan Baku

$$S^2 = \frac{n(\sum f_i x_i^2) - (\sum f_i x_i)^2}{n(n-1)}$$

$$S^2 = \frac{23(109125) - (1545)^2}{23(23-1)}$$

$$S^2 = \frac{(2509875) - (2387025)}{23(22)}$$

$$S = \sqrt{\frac{122850}{506}}$$

$$S = \sqrt{242,78656126482}$$

$$S = 15,581609713531$$

$$S = 16$$

No	$x_i$	$f_i$	$f_{kum}$	$z_I$	Luas $z_I$	$F(z_I)$	$S(z_I)$	$F(z_I)$ - $S(z_I)$
1	40	3	3	-1,69	0,4582	0,0418	0,1304	0,0886
2	45	1	4	-1,38	0,4207	0,0793	0,1739	<b>0,0946</b>
3	50	1	5	-1,06	0,3665	0,1335	0,2174	0,0839
4	60	3	8	-0,44	0,1664	0,3336	0,3478	0,0142
5	65	2	10	-0,13	0,0478	0,4522	0,4348	0,0174
6	70	2	12	0,19	0,0478	0,5478	0,5217	0,0261
7	75	5	17	0,50	0,2088	0,7088	0,7391	0,0303
8	80	3	20	0,81	0,2967	0,7967	0,8696	0,0778
9	85	1	21	1,13	0,3665	0,8665	0,9130	0,0465
10	90	2	23	1,44	0,4222	0,9222	1,0000	0,0778
$\Sigma$		<b>23</b>						

$$L_0 = 0,0946$$

$$a = 0,05$$

$$n = 23$$

$$L_{(0.05)(23)}$$

Karena tidak terdapat nilai distribusi  $L_{(0.05)(23)}$  di dalam tabel, maka dicari dengan interpolasi sebagai berikut:

$$L_{(0.05)(20)} = 0,190$$

$$L_{(0.05)(25)} = 0,173$$

$$\frac{0,190}{20} \quad \frac{L_{(0.05)(23)}}{23} \quad \frac{0,173}{25}$$

$$\frac{L_{(0,05;23)} - 0,190}{0,173 - 0,190} = \frac{23 - 20}{25 - 20}$$

$$L_{(0,05)(22)} - 0,190 = \frac{3}{5}(-0,017)$$

$$L_{(0,05)(22)} = 0,190 - 0,0102$$

$$L_{(0,05)(22)} = 0,1798$$

$$\text{Maka } L_{(0,05)(23)} = 0,1798$$

$$L_0 = 0,0946 < L_{(0,05)(23)} = 0,1798$$

Kesimpulan : Terima  $H_0$  atau Data Berdistribusi Normal



## Lampiran 10

### Uji Homogenitas Varians Nilai *Post Test* Kelas Eksperimen dan Kontrol

Rumusan Hipotesis:

$$H_0: \sigma_1^2 = \sigma_2^2$$

$$H_1: \sigma_1^2 \neq \sigma_2^2$$

$$n_1 = 20$$

$$n_2 = 23$$

$$s_1^2 = 289$$

$$s_2^2 = 256$$

$$F = \frac{\text{Variansterbesar}}{\text{Variansterkecil}}$$

$$F = \frac{s_1^2}{s_2^2}$$

$$F = \frac{289}{256}$$

$$F = 1,12890625$$

$$F = 1,128$$

$$v_1 = n_1 - 1 = 20 - 1 = 19$$

$$v_2 = n_2 - 1 = 23 - 1 = 22$$

$$F_{(a)(v_1)(v_2)} = F_{(0.05)(22,19)}$$

Karena tidak terdapat pada nilai distribusi  $F_{(0.05)(22,19)}$  di dalam tabel, maka dicari dengan interpolasi sebagai berikut:

Interpolasi

$$F_{(0.05)(22,19)} = 1,73$$

$$F_{(0.05)(22,19)} = 1,95$$

$$\frac{1,73}{25} \quad \frac{F_{(0.05)(22)(19)}}{22} \quad \frac{1,95}{19}$$

$$\frac{F_{(0.05)(22)(19)} - 1,95}{1,73 - 1,95} = \frac{22 - 19}{25 - 19}$$

$$F_{(0.05)(22,19)} - 1,95 = \frac{3}{6} \times (-0,22)$$

$$F_{(0.05)(22,19)} = 1,95 - 0,011$$

$$F_{(0.05)(22,19)} = 1,939$$

Maka  $F_{(0.05)(22,19)} = 1,939$

$$F = 1,128 < F_{(0.05)(22,19)} = 1,939$$

Kesimpulan: Terima  $H_0$  atau Kedua Data Homogen

**Uji Independen Antara Dua Faktor Kelas yang Diajar dengan Metode *Role Playing* atau kelas Eksperimen dan Pembelajaran Konvensional atau kelas Kontrol**

Pembelajaran	Nilai			Jumlah
	R(<65,00)	S(65,01-82,99)	T(83,00-100)	
Eksperimen	4	6	10	20
Kontrol	10	10	3	23
Jumlah	14	16	13	43

Pembelajaran	Nilai			Jumlah
	R(<65,00)	S(56,01-82,99)	T(83,00-100)	
Eksperimen	4 6	6 9,13	10 4,88	20
Kontrol	10 8	10 6,88	3 8,13	23
Jumlah	14	16	13	43

$$x^2 = \sum_{i=j}^B \sum_{j=i}^K \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

$$x^2 = \frac{(4-6)^2}{6} + \frac{(6-9,13)^2}{9,13} + \frac{(10-4,88)^2}{4,88} + \frac{(10-8)^2}{8} + \frac{(10-6,88)^2}{6,88} + \frac{(3-8,13)^2}{8,13}$$

$$x^2 = \frac{4}{6} + \frac{9,80}{9,13} + \frac{26,21}{4,88} + \frac{4}{8} + \frac{9,73}{6,88} + \frac{26,32}{8,13}$$

$$x^2 = 0,67 + 1,07 + 5,37 + 0,67 + 2,85 + 3,24$$

$$x^2 = 13,87$$

$$x^2 = 13,87$$

$$x^2_{(1-\alpha)\{(B-1)(K-1)\}} = x^2_{(1-0,05)\{(2-1)(3-1)\}} = x^2_{(0,95)(2)} = 5,99$$

Ternyata  $x^2 = 7,82 > x^2_{(0,95)(2)} = 5,99$  maka  $H_0$  ditolak  $H_1$  diterima

Sehingga dapat dinyatakan ada pengaruh penggunaan Metode *Role Playing* (bermain peran) pada mata pelajaran IPS materi Masalah Sosial di kelas IV SD Negeri 067246 Kecamatan Medan Tuntungan, Kecamatan Sunggal Tahun pelajaran 2022/2023



Foto dengan Kepala Sekolah SD Negeri 067246 Medan Tuntungan



Foto dengan Guru Walikelas IV B



Foto dengan Guru walikelas IV A



Pembukaan salam sebelum pembelajaran



Pre test kelas IV B



Pre test kelas IVA



Siswa kelas IV A



Peneliti Memertian Materi Kelas IVA



Peneliti Membagikan Peran Kepada siswa Kelas IVA





Siswa memainkan setiap peran yg di berikan  
Di kelas IVA



Kelas IVA



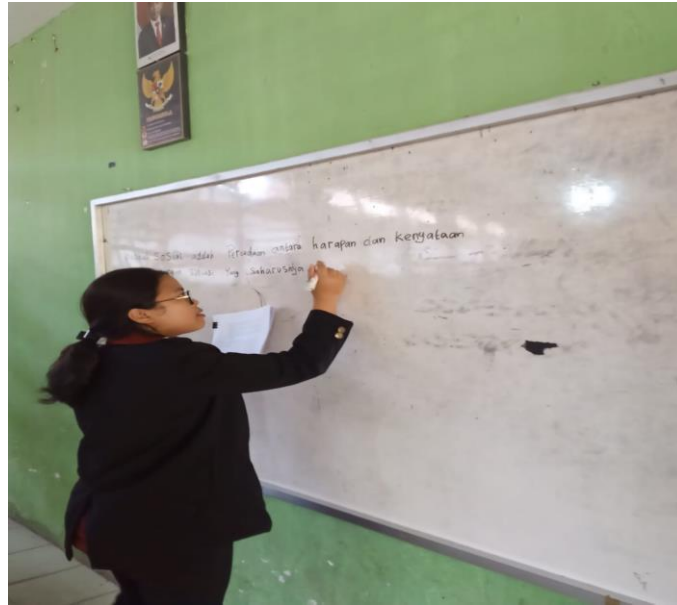


P

Peneliti Memberikan Fost test Kepada siswa kelas IV A



Siswa Kelas IVA



Peneliti MeJelaskan Materi Kelas IVB



Menjelaskan materi kelas IVB



Siswa mencatat setiap materi yg di jelaskan



Pem