

**Lampiran 1**

Tabel 7. Deskripsi Data

Hasil Tes awal Kelompok X (Latihan Smes Bola Bergerak)

No.	X	X <sup>2</sup>
1	18	324
2	19	361
3	20	400
4	23	529
Total	80	1614

Rata-rata

$$\begin{aligned}\bar{X} &= \frac{\Sigma X}{n} \\ &= \frac{80}{4} = 20\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma X^2 - (\Sigma X)^2}{n \cdot (n-1)} & S &= \sqrt{S^2} \\ &= \frac{4 \cdot 1614 - (80)^2}{4 \cdot (4-1)} & &= \sqrt{4,666} \\ &= \frac{6456 - 6400}{12} & &= 2,160 \\ &= \frac{56}{12} = 4,666\end{aligned}$$

## Lampiran 2

Tabel 8. Distribusi Frekuensi

Menentukan rentang (R)

$$\begin{aligned} R &= \text{Max} - \text{Min} \\ &= 23 - 18 \\ &= 5 \end{aligned}$$

Menentukan Banyaknya kelas (K)

$$\begin{aligned} K &= 1 + 3,3 (\log n) \\ &= 1 + 3,3 (\log 4) \\ &= 1 + 1,986 \\ &= 2,986 = 3 \end{aligned}$$

Panjang kelas (P)

$$P = \frac{R}{K} = \frac{5}{3} = 1,66$$

No.	Interval	Titik Tengah	Frekuensi Absolut	Frekuensi Relatif
1	18 – 19,66	18,83	2	25 %
2	19,67 – 21,33	20,5	1	25 %
3	21,34 – 23	22,17	1	50 %
	Total		4	100 %

**Lampiran 3.**

Tabel 9. Deskripsi Data.

Hasil Tes Akhir Kelompok X (Latihan Smes Bola Bergerak)

No.	X	X <sup>2</sup>
1	22	484
2	24	576
3	25	625
4	26	676
Total	97	2361

Rata-rata

$$\begin{aligned}\bar{X} &= \frac{\Sigma X}{n} \\ &= \frac{97}{4} = 24,25\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma X^2 - (\Sigma X)^2}{n \cdot (n-1)} & S &= \sqrt{S^2} \\ &= \frac{4 \cdot 2361 - (97)^2}{4 \cdot (4-1)} & &= \sqrt{2,916} \\ &= \frac{9444 - 9409}{12} & &= 1,707 \\ &= \frac{35}{12} = 2,916\end{aligned}$$

## Lampiran 4

Tabel 10. Distribusi Frekuensi

Menentukan rentang (R)

$$\begin{aligned} R &= \text{Max} - \text{Min} \\ &= 26 - 22 \\ &= 4 \end{aligned}$$

Menentukan Banyaknya kelas (K)

$$\begin{aligned} K &= 1 + 3,3 (\log n) \\ &= 1 + 3,3 (\log 4) \\ &= 1 + 1,986 \\ &= 2,986 = 3 \end{aligned}$$

Panjang kelas (P)

$$P = \frac{R}{K} = \frac{4}{3} = 1,33$$

No.	Interval	Titik Tengah	Frekuensi Absolut	Frekuensi Relatif
1	22 – 23,33	22,66	1	25 %
2	23,34 – 24,67	24,00	1	25 %
3	27 – 28	25,33	2	50 %
	Total		4	100 %

## Lampiran 5

Tabel 11. Distribusi Data

Hasil Tes Awal Kelompok Y (Latihan Smes Bola Di Gantung)

No.	Y	Y <sup>2</sup>
1	16	256
2	18	324
3	19	361
4	20	400
Total	73	1341

Rata-rata

$$\begin{aligned}\bar{Y} &= \frac{\Sigma Y}{n} \\ &= \frac{73}{4} = 18,25\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma Y^2 - (\Sigma Y)^2}{n \cdot (n-1)} & S &= \sqrt{S^2} \\ &= \frac{4 \cdot 1341 - (73)^2}{4 \cdot (4-1)} & &= \sqrt{2,916} \\ &= \frac{5364 - 5329}{12} & &= 1,707 \\ &= \frac{35}{12} = 2,916\end{aligned}$$

## Lampiran 6

Tabel 12. Distribusi Frekuensi

Menentukan rentang (R)

$$\begin{aligned} R &= \text{Max} - \text{Min} \\ &= 20 - 16 \\ &= 4 \end{aligned}$$

Menentukan Banyaknya kelas (K)

$$\begin{aligned} K &= 1 + 3,3 (\log n) \\ &= 1 + 3,3 (\log 4) \\ &= 1 + 1,986 \\ &= 2,986 = 3 \end{aligned}$$

Panjang kelas (P)

$$P = \frac{R}{K} = \frac{4}{3} = 1,33$$

No.	Interval	Titik Tengah	Frekuensi Absolut	Frekuensi Relatif
1	16 – 17,33	16,66	1	25 %
2	17,32 – 18,67	18,00	1	25 %
3	18,68 – 20,01	19.34	2	50 %
	Total		4	100 %

## Lampiran 7

Tabel 13. Distribusi Data

Hasil Tes Akhir Kelompok Y (Latihan Smes Bola Di Gantung)

No.	Y	Y <sup>2</sup>
1	18	324
2	20	400
3	20	400
4	22	484
Total	80	1608

Rata-rata

$$\begin{aligned}\bar{Y} &= \frac{\Sigma Y}{n} \\ &= \frac{80}{4} = 20\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma Y^2 - (\Sigma Y)^2}{n \cdot (n-1)} & S &= \sqrt{S^2} \\ &= \frac{4 \cdot 1608 - (80)^2}{4 \cdot (4-1)} & &= \sqrt{2,666} \\ &= \frac{6432 - 6400}{12} & &= 1,632 \\ &= \frac{32}{12} = 2,666\end{aligned}$$

## Lampiran 8

Tabel 14. Distribusi Frekuensi

Menentukan rentang (R)

$$\begin{aligned} R &= \text{Max} - \text{Min} \\ &= 22 - 18 \\ &= 4 \end{aligned}$$

Menentukan Banyaknya kelas (K)

$$\begin{aligned} K &= 1 + 3,3 (\log n) \\ &= 1 + 3,3 (\log 4) \\ &= 1 + 1,986 \\ &= 2,986 = 3 \end{aligned}$$

Panjang kelas (P)

$$P = \frac{R}{K} = \frac{4}{3} = 1,33$$

No.	Interval	Titik Tengah	Frekuensi Absolut	Frekuensi Relatif
1	18 – 19,33	18,66	1	25 %
2	19,33 – 20,67	20,00	2	50 %
3	20,68 – 22,01	22,34	1	25 %
	Total		4	100 %



### Lampiran 9

Tabel 15. Perhitungan Uji-t Paired (Latihan Smes Bola Bergerak)

NO	AWAL X1	AKHIR X2	D (X2 - X1)	D <sup>2</sup>
1	18	22	4	16
2	19	24	5	25
3	20	25	5	25
4	23	26	3	9
TOTAL	80	97	17	75

Diketahui :

$$\Sigma D = 17$$

$$\Sigma D^2 = 75$$

Dicari

$$M_D = \frac{\Sigma D}{n} = \frac{17}{4} = 4,25$$

$$\begin{aligned} Sd_D &= \sqrt{\frac{\Sigma D^2}{n} - \left(\frac{\Sigma D}{n}\right)^2} \\ &= \sqrt{\frac{75}{4} - \left(\frac{17}{4}\right)^2} \\ &= \sqrt{18,75 - 4,25^2} = \sqrt{0,688} = 0,829 \end{aligned}$$

$$\begin{aligned} SE_{MD} &= \frac{SD_D}{\sqrt{n-1}} \\ &= \frac{0,829}{\sqrt{4-1}} \\ &= \frac{0,829}{1,732} \end{aligned}$$

$$= 0,478$$

$$\begin{aligned} t_0 &= \frac{M_D}{SE_{MD}} \\ &= \frac{4,25}{0,478} \\ &= 8,891 \end{aligned}$$

Mencari  $t_{tabel}$  :

$$\begin{aligned} &= (\alpha ; n-1) \\ &= (0,05 ; 3) \\ &= 3,182 \end{aligned}$$

Dari data tersebut diperoleh  $t_{hitung}$  sebesar 8,891  $t_{tabel}$  dengan uji satu sisi pada taraf signifikan 0,05 dengan  $n-1 = 3$  adalah 3,182 maka  $t_{hitung}$  (8,891)  $> t_{tabel}$  (3,182), berarti terjadi peningkatan yang signifikan antara latihan smes bola bergerak tes awal dan tes akhir.

**Lampiran 10**

Tabel 16. Perhitungan Uji-t Paired (latihan smes bola di gantung)

NO	AWAL Y1	AKHIR Y2	D (Y2 - Y1)	D <sup>2</sup>
1	16	18	2	4
2	18	20	2	4
3	19	20	1	1
4	20	22	2	4
TOTAL	73	80	7	13

Diketahui :

$$\Sigma D = 7$$

$$\Sigma D^2 = 13$$

Dicari

$$M_D = \frac{\Sigma D}{n} = \frac{7}{4} = 1,75$$

$$Sd_D = \sqrt{\frac{\Sigma D^2}{n} - \left(\frac{\Sigma D}{n}\right)^2}$$

$$= \sqrt{\frac{13}{4} - \left(\frac{7}{4}\right)^2}$$

$$= \sqrt{3,25 - 3,062^2} = \sqrt{0,188} = 0,433$$

$$SE_{MD} = \frac{SD_D}{\sqrt{n-1}}$$

$$= \frac{0,433}{\sqrt{4-1}}$$

$$= \frac{0,433}{1,732}$$

$$= 0,25$$

$$\begin{aligned} t_0 &= \frac{M_D}{SE_{MD}} \\ &= \frac{1,75}{0,25} \\ &= 7 \end{aligned}$$

Mencari  $t_{tabel}$  :

$$\begin{aligned} &= (\alpha ; n-1) \\ &= (0,05 ; 3) \\ &= 3,182 \end{aligned}$$

Dari data tersebut diperoleh  $t_{hitung}$  sebesar 7  $t_{tabel}$  dengan uji satu sisi pada taraf signifikan 0,05 dengan  $n-1 = 3$  adalah 3,182 maka  $t_{hitung} ( 7 ) < t_{tabel} (3,182)$ , berarti tidak terjadi peningkatan yang signifikan antara latihan smes bola di gantung tes awal dan tes akhir.

## Lampiran 11

Tabel 17. Perhitungan Uji-t Independent  
(perbandingan smes bola bergerak dengan smes bola di gantung)

NO	X	Y	X <sup>2</sup>	Y <sup>2</sup>
1	22	18	484	324
2	24	20	576	400
3	25	20	625	400
4	26	22	676	484
TOTAL	97	80	2361	1608

Diketahui

$$n_X = 4$$

$$n_Y = 4$$

$$\Sigma X = 97$$

$$\Sigma Y = 80$$

Dicari :

$$\begin{aligned}\bar{X} &= \frac{\Sigma X}{n} \\ &= \frac{97}{4} = 24,25\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma X^2 - (\Sigma X)^2}{n \cdot (n-1)} \\ &= \frac{4 \cdot 97^2 - (97)^2}{4 \cdot (4-1)} \\ &= \frac{37636 - 9409}{12} \\ &= 2352,25\end{aligned}$$

$$\begin{aligned}\bar{Y} &= \frac{\Sigma Y}{n} \\ &= \frac{80}{4} = 20\end{aligned}$$

$$\begin{aligned}S^2 &= \frac{n \cdot \Sigma Y^2 - (\Sigma Y)^2}{n \cdot (n-1)} \\ &= \frac{4 \cdot 80^2 - (80)^2}{4 \cdot (4-1)} \\ &= \frac{25600 - 6400}{12} \\ &= 1600\end{aligned}$$

Varians Gabungan

$$\begin{aligned}S^2_{\text{gab}} &= \frac{(n_x - 1)S_x^2 + (n_y - 1)S_y^2}{n_x + n_y - 2} \\ &= \frac{(4-1)2352,25 + (4-1)1600^2}{4+4-2} \\ &= \frac{3.5533080,062 + 3.2560000}{6} \\ &= \frac{16599240,186 + 7680000}{6} \\ &= \frac{24279240,186}{6} = 1517452,5116\end{aligned}$$

$$\begin{aligned}S &= \sqrt{1517452,5116} \\ &= 1231,849\end{aligned}$$

$$\begin{aligned}t_0 &= \frac{\bar{X} - \bar{Y}}{s \sqrt{\frac{1}{n_x} + \frac{1}{n_y}}} \\ &= \frac{24,25 - 20}{1231,849 \sqrt{\frac{1}{4} + \frac{1}{4}}}\end{aligned}$$

$$\begin{aligned} &= \frac{4,25}{1231,849 \times 0,5} \\ &= \frac{4,25}{615,9245} \\ &= 0,006 \end{aligned}$$

Mencari  $t_{\text{tabel}}$  :

$$\begin{aligned} &= (\frac{1}{2} \alpha ; n-2) \\ &= (0,05 ; 2) \\ &= 4,303 \end{aligned}$$

Dari data tersebut diperoleh  $t_{\text{hitung}}$  sebesar 0,006  $t_{\text{tabel}}$  dengan taraf signifikan 0,05 dengan df  $(n-2) = 2$  adalah 4,303 maka  $t_{\text{hitung}} (0,006) < t_{\text{tabel}} (4,303)$ , berarti tidak terdapat perbedaan yang signifikan antara latihan smes bola bergerak dengan latihan smes bola di gantung.

## Lampiran 12

Tabel 18. Uji Reliabilitas

No.	X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
1		22	324	484	396
2	19	24	361	576	456
3	20	25	400	625	500
4	23	26	529	676	598
TOTAL	80	97	1614	2361	1950

Diketahui :

N : 4  
 ΣX : 80  
 ΣY : 97  
 ΣX<sup>2</sup> : 1614  
 ΣY<sup>2</sup> : 2361  
 ΣXY : 1950

$$\begin{aligned}
 r &= \frac{n \cdot \Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{\{n \cdot \Sigma X^2 - (\Sigma X)^2\} \{n \cdot \Sigma Y^2 - (\Sigma Y)^2\}}} \\
 &= \frac{4 \cdot 1950 - (80)(97)}{\sqrt{\{4 \cdot 1614 - (80)^2\} \{4 \cdot 2361 - (97)^2\}}} \\
 &= \frac{(7800 - 7760)}{\sqrt{(6456 - 6400)(9444 - 9409)}} \\
 &= \frac{(40)}{\sqrt{(56)(35)}} \\
 &= \frac{40}{44,271} \\
 &= 0,903
 \end{aligned}$$

Jika r table dengan  $\alpha = 0,05$  dan  $n = 4$  diperoleh nilai 2,776 maka r hitung (0,903) > r table (2,776). Dengan demikian data dinyatakan tidak reliabel.