**Lampiran L**

**PERHITUNGAN VALIDITAS SOAL PRETES**

Sebelum tes digunakan sebagai pengumpulan data, terlebih dahulu di uji cobakan pada siswa luar sampel penelitian. Tes ini di uji dikelas lain. Data diperoleh sebagai berikut :

**TABEL XII**

**HASIL UJI COBA INSTRUMEN PRETES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Responding** | **ButirSoal** | **Y** | **Y2** |
| **1** | **2** | **3** | **4** | **5** |
| 1 | 1 | 10 | 10 | 10 | 10 | 10 | 50 | 2500 |
| 2 | 2 | 10 | 8 | 10 | 10 | 6 | 44 | 1936 |
| 3 | 3 | 9 | 6 | 8 | 10 | 10 | 43 | 1849 |
| 4 | 4 | 6 | 5 | 6 | 7 | 10 | 34 | 1156 |
| 5 | 5 | 6 | 8 | 6 | 10 | 6 | 36 | 1296 |
| 6 | 6 | 7 | 10 | 0 | 0 | 5 | 22 | 484 |
| 7 | 7 | 8 | 8 | 6 | 8 | 10 | 40 | 1600 |
| 8 | 8 | 0 | 0 | 8 | 10 | 6 | 24 | 576 |
| 9 | 9 | 10 | 10 | 6 | 10 | 10 | 46 | 2116 |
| 10 | 10 | 10 | 10 | 10 | 10 | 8 | 48 | 2304 |
| 11 | 11 | 8 | 10 | 8 | 10 | 10 | 46 | 2116 |
| 12 | 12 | 6 | 8 | 10 | 9 | 8 | 41 | 1681 |
| 13 | 13 | 10 | 10 | 10 | 8 | 10 | 48 | 2304 |
| 14 | 14 | 10 | 6 | 8 | 10 | 8 | 42 | 1764 |
| 15 | 15 | 8 | 10 | 6 | 8 | 10 | 42 | 1764 |
| 16 | 16 | 8 | 6 | 8 | 10 | 10 | 42 | 1764 |
| 17 | 17 | 6 | 10 | 10 | 10 | 8 | 44 | 1936 |
| 18 | 18 | 10 | 6 | 10 | 8 | 10 | 44 | 1936 |
| 19 | 19 | 8 | 10 | 8 | 10 | 8 | 44 | 1936 |
| 20 | 20 | 10 | 8 | 10 | 10 | 10 | 48 | 2304 |
| **∑ X** | 160 | 159 | 158 | 178 | 173 | 828 | 29221 |
| **(∑ X)2** | 25600 | 25281 | 24964 | 31684 | 29929 | 685584 | 853866841 |

**TABEL XIII**

**TABEL BANTU PERHITUNGAN VALIDITAS SOAL PRETEST**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No** | **Responding** | **X1. Y** | **X2 .Y** | **X3.Y** | **X4.Y** | **X5.Y** |
| 1 | 1 | 500 | 500 | 500 | 500 | 500 |
| 2 | 2 | 440 | 352 | 440 | 440 | 264 |
| 3 | 3 | 387 | 258 | 344 | 430 | 430 |
| 4 | 4 | 204 | 170 | 204 | 238 | 340 |
| 5 | 5 | 216 | 288 | 216 | 360 | 216 |
| 6 | 6 | 154 | 220 | 0 | 0 | 110 |
| 7 | 7 | 320 | 320 | 240 | 320 | 400 |
| 8 | 8 | 0 | 0 | 192 | 240 | 144 |
| 9 | 9 | 460 | 460 | 276 | 460 | 460 |
| 10 | 10 | 480 | 480 | 480 | 480 | 384 |
| 11 | 11 | 368 | 460 | 368 | 460 | 460 |
| 12 | 12 | 246 | 328 | 410 | 369 | 328 |
| 13 | 13 | 480 | 480 | 480 | 384 | 480 |
| 14 | 14 | 420 | 252 | 336 | 420 | 336 |
| 15 | 15 | 336 | 420 | 252 | 336 | 420 |
| 16 | 16 | 336 | 252 | 336 | 420 | 420 |
| 17 | 17 | 264 | 440 | 440 | 440 | 352 |
| 18 | 18 | 440 | 264 | 440 | 352 | 440 |
| 19 | 19 | 352 | 440 | 352 | 440 | 352 |
| 20 | 20 | 480 | 384 | 480 | 480 | 480 |
| **∑** | 6883 | 6768 | 6786 | 7569 | 7316 |

Berdasarkan table maka dapat dihitung validitas soal pretest dengan menggunakan rumus r *produk moment* dengan cara sebagai berikut :

$$r xy= \frac{n \sum\_{}^{}XY-(\sum\_{}^{}X) (\sum\_{}^{}Y)}{\sqrt{\left[n\sum\_{}^{}X^{2}-(\sum\_{}^{}X)^{2}\right]\left[n \sum\_{}^{}Y^{2}-(\sum\_{}^{}Y)^{2}\right]}}$$

**Soal I**

$$r x\_{1}y= \frac{20 ×6883-(160)(828)}{\sqrt{\left[20 ×1394- (160)^{2}\right]\left[20 ×35322- (828)^{2}\right]}}$$

$$r x\_{1}y= \frac{137660-132480}{\sqrt{\left[27880-25600\right]\left[706440-685584\right]}}$$

$$r x\_{1}y= \frac{5180}{\sqrt{2280 ×20856}}$$

$$r x\_{1}y= \frac{5180}{\sqrt{47551680}}$$

$$r x\_{1}y= \frac{5180}{6895,7726}$$

$$r x\_{1}y=0,7511 $$

Berdasarkan harga table kritik r produk moment dengan taraf signifikan α = 0.05 untuk n = 20 diperoleh rtabel = 0.444 dan rhitung= 0.7511, jadi rhitung>rtabel ,hal ini menunjukkan bahwa soal nomor 1 valid. Perhitungan ini juga berlaku untuk soal nomor 2,3,4, dan 5 , sehingga diperoleh data validitas soal sebagai berikut :

**TABEL XIV**

**DATA VALIDITAS SOAL PRETEST**

|  |  |  |  |
| --- | --- | --- | --- |
| **No Soal** | **rhitung** | **rtabel** | **Keterangan** |
| 1 | 0,7511 | 0.444 | Valid |
| 2 | 0,5136 | 0.444 | Valid |
| 3 | 0,7044 | 0.444 | Valid |
| 4 | 0,6132 | 0.444 | Valid |
| 5 | 0,6333 | 0.444 | Valid |

Berdasarkan table terlihat bahwa rhitung>rtabel untuk ke delapan soal yang akan diujikandapat disimpulkan bahwa instrument penelitian tersebut terdapat valid.