

3

- 1.
- 2.
- 3.
- 4.

2

93

2 / 3

23

(Purposive sampling)

1.

1.1

1.2

(2545, 90 - 95)

(Rating scale) 5

65

3

1.2.1

26

| | | | |
|------------|-------|--|------|
| | | 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 15, 18, 19, 20, | |
| 21, 22, 23 | 24 | | |
| | | 12, 13, 14, 16, 17, 25, 26 | |
| | 1.2.2 | 22 | |
| | | 8, 9, 10, 11, 12, 13, 14 | 15 |
| | | 1, 2, 3, 4, 5, 6, 7, 16, 17, 18, 19, 20, 21 | 22 |
| | 1.2.3 | 17 | |
| | | 5, 7, 8, 9, 10, 11 | 17 |
| | | 1, 2, 3, 4, 6, 12, 13, 14, 15 | 16 |
| | 1.3 | | |
| | 1.4 | | 3 |
| | | IOC (Item Objective Congruence) | |
| | | 05 | |
| | +1 | | |
| | 0 | | |
| | -1 | | |
| | | (IOC) | 1.00 |
| (|) | | |
| | 14.1 | | |
| | 14.2 | | |

1.4.3

15

45

15

1.5.1

15

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

6,7,8,9,14 15

1.5.2

15

7, 8, 9, 10, 11 12

1, 2, 3, 4, 5, 6, 7, 13, 14, 15

1.5.3

15

6, 7, 8, 9, 10 15

1, 2, 3, 4, 5, 11, 12, 13 15

1.6

(Try out)

2

30

(Reliability)
(Alpha Coefficient)

(Cronbach)

0.83

2.

12

2.1

3

2.2

2.3

3

23.1

2.3.2

2.3.3

2.4

1.

1.1

1.2

(Pre-test)

2.

2 15.00 . - 15.50 . 12

08.30 . - 09.20 . 6

3.

1

(Post-test)

(t- test Dependent)

1.

1.1 (2543, 225)

$$\bar{X} = \frac{\sum X}{n}$$

 \bar{X}

$$\sum X$$

 n

1.2 (Standard Deviation) (2543, 227)

$$S.D. = \sqrt{\frac{n \sum X^2 - (\sum X)^2}{n(n-1)}}$$

 $S.D.$

$$\sum X$$

$$X^2$$

 n

2.

(Alpha Coefficient) (Cronbach) (2543, 186)

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum s_i^2}{s_x^2} \right]$$

∞ **k** $S_{i_2}^2$
 S_x

3.

(t- test)

(Dependent Sample)

(, 2551, 192)

$$t = \frac{\sum D}{\sqrt{\frac{n \sum D^2 - (\sum D)^2}{n-1}}}$$

$$df = n-1$$

t

n

D