CHAPTER IV

RESEARCH FINDING

This chapter presents the result and discussion of the research. It is divided into the calculation of try out test, the data description, the data analysis, and the data interpretation.

1.1 The Calculation of Tryout Test

Trying out of instrument is needed in order to know the validity and reliability of the test items. In this part, the data showed the calculation of validity in the tryout test.

1.1.1 The Validity of Tryout Test

Formula :

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

The item test is valid if $r_{xy} > r_{table}$

r_{table}= 0,388

Table 4.1

The Computation of Validity by Using Manual Calculation

No	The Value of r_{xy}	Criteria
1.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(510)-(22)(571)}{\sqrt{\{(26)(22)-(22)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{13260-12562}{\sqrt{(572-484)(348010-326041)}}$ $= \frac{698}{\sqrt{(88)(21969)}} = \frac{698}{\sqrt{1933272}} = \frac{698}{1390.42}$ r_{xy} = 0.502	**Valid**
2.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(371)-(15)(571)}{\sqrt{\{(26)(15)-(15)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{9646-8565}{\sqrt{(390-225)(348010-326041)}}$ $= \frac{1081}{\sqrt{(165)(21969)}} = \frac{1081}{\sqrt{3624885}} = \frac{1081}{1903.91}$ r_{xy} = 0.567	**Valid**
3.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$	**Valid**

	$= \frac{26(532)-(23)(571)}{\sqrt{\{(26)(23)-(23)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{13832-13133}{\sqrt{(598-529)(348010-326041)}}$ $= \frac{699}{\sqrt{(69)(21969)}} = \frac{699}{\sqrt{1515861}} = \frac{699}{1231.20}$ $r_{xy} = 0.567$	
4.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(317)-(13)(571)}{\sqrt{\{(26)(13)-(13)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{8242-7423}{\sqrt{(338-169)(348010-326041)}}$ $= \frac{819}{\sqrt{(169)(21969)}} = \frac{819}{\sqrt{3712761}} = \frac{819}{1926.85}$ $r_{xy} = 0.425$	**Valid**
5.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(315)-(13)(571)}{\sqrt{\{(26)(13)-(13)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{8190-7423}{\sqrt{(338-169)(348010-326041)}}$ $= \frac{767}{\sqrt{(169)(21969)}} = \frac{767}{\sqrt{3712761}} = \frac{767}{1926.85}$	**Valid**

	r_{xy} = 0.398	
6.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(267)-(10)(571)}{\sqrt{\{(26)(10)-(10)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{6942-5710}{\sqrt{(260-100)(348010-326041)}}$ $= \frac{1232}{\sqrt{(160)(21969)}} = \frac{1232}{\sqrt{3515040}} = \frac{1232}{1874.84}$ r_{xy} = 0.657	**Valid**
7.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(369)-(15)(571)}{\sqrt{\{(26)(15)-(15)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{9594-8565}{\sqrt{(390-225)(348010-326041)}}$ $= \frac{1029}{\sqrt{(165)(21969)}} = \frac{1029}{\sqrt{3624885}} = \frac{1029}{1903.91}$ r_{xy} = 0.540	**Valid**
8.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(372)-(17)(571)}{\sqrt{\{(26)(17)-(17)^2\}\{(26)(13385)-(571)^2\}}}$	**Invalid**

	$= \frac{9672 - 9707}{\sqrt{(442 - 289)(348010 - 326041)}}$ $= \frac{-35}{\sqrt{(153)(21969)}} = \frac{-35}{\sqrt{3361257}} = \frac{-35}{1833.37}$ $r_{xy} = -0.019$	
9.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(404) - (17)(571)}{\sqrt{\{(26)(17) - (17)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{10504 - 9707}{\sqrt{(442 - 289)(348010 - 326041)}}$ $= \frac{767}{\sqrt{(153)(21969)}} = \frac{767}{\sqrt{3361257}} = \frac{767}{1833.37}$ $r_{xy} = 0.418$	**Valid**
10.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(162) - (6)(571)}{\sqrt{\{(26)(6) - (6)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{4212 - 3426}{\sqrt{(156 - 36)(348010 - 326041)}}$ $= \frac{786}{\sqrt{(120)(21969)}} = \frac{786}{\sqrt{2636280}} = \frac{786}{1623.66}$ $r_{xy} = 0.484$	**Valid**

11.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(454)-(19)(571)}{\sqrt{\{(26)(19)-(19)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{14804-10849}{\sqrt{(494-361)(348010-326041)}}$ $= \frac{955}{\sqrt{(133)(21969)}} = \frac{955}{\sqrt{2921877}} = \frac{955}{1709.34}$ $r_{xy} = 0.558$	**Valid**
12.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(363)-(15)(571)}{\sqrt{\{(26)(15)-(15)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{9438-8565}{\sqrt{(390-225)(348010-326041)}}$ $= \frac{873}{\sqrt{(165)(21969)}} = \frac{873}{\sqrt{3624885}} = \frac{873}{1903.91}$ $r_{xy} = 0.458$	**Valid**
13.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(404)-(17)(571)}{\sqrt{\{(26)(17)-(17)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{10504-9707}{\sqrt{(442-289)(348010-326041)}}$	**Valid**

	$= \frac{767}{\sqrt{(153)(21969)}} = \frac{767}{\sqrt{3361257}} = \frac{767}{1833.37}$ r_{xy} = 0.434	
14.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(323) - (13)(571)}{\sqrt{\{(26)(13) - (13)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{8398 - 7423}{\sqrt{(338 - 169)(348010 - 326041)}}$ $= \frac{975}{\sqrt{(169)(21969)}} = \frac{975}{\sqrt{3712761}} = \frac{975}{1926.85}$ r_{xy} = 0.506	**Valid**
15.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(191) - (9)(571)}{\sqrt{\{(26)(9) - (9)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{4966 - 5139}{\sqrt{(234 - 81)(348010 - 326041)}}$ $= \frac{-173}{\sqrt{(153)(21969)}} = \frac{-173}{\sqrt{3361257}} = \frac{-173}{1833.37}$ r_{xy} = −0.094	**Invalid**
16.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$	**Valid**

	$= \frac{26(336)-(14)(571)}{\sqrt{\{(26)(14)-(14)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{8736-7994}{\sqrt{(364-196)(348010-326041)}}$ $= \frac{742}{\sqrt{(168)(21969)}} = \frac{742}{\sqrt{3690792}} = \frac{742}{1921.14}$ $r_{xy} = -0.386$	
17.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(435)-(18)(571)}{\sqrt{\{(26)(18)-(18)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{11310-10278}{\sqrt{(468-324)(348010-326041)}}$ $= \frac{1032}{\sqrt{(144)(21969)}} = \frac{1032}{\sqrt{3163536}} = \frac{1032}{1778.63}$ $r_{xy} = 0.580$	**Valid**
18.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(482)-(20)(571)}{\sqrt{\{(26)(20)-(20)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{12532-11420}{\sqrt{(520-400)(348010-326041)}}$ $= \frac{1112}{\sqrt{(120)(21969)}} = \frac{1112}{\sqrt{2636280}} = \frac{1112}{1623.66}$	**Valid**

	r_{xy} = 0.684	
19.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(503)-(23)(571)}{\sqrt{\{(26)(23)-(23)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{13078-13133}{\sqrt{(598-529)(348010-326041)}}$ $= \frac{-55}{\sqrt{(69)(21969)}} = \frac{-55}{\sqrt{1515861}} = \frac{-55}{1231.20}$ r_{xy} = −0.044	**Invalid**
20.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(338)-(14)(571)}{\sqrt{\{(26)(14)-(14)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{8788-7994}{\sqrt{(364-196)(348010-326041)}}$ $= \frac{794}{\sqrt{(168)(21969)}} = \frac{794}{\sqrt{3690792}} = \frac{794}{1921.14}$ r_{xy} = 0.413	**Valid**
21.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(342)-(14)(571)}{\sqrt{\{(26)(14)-(14)^2\}\{(26)(13385)-(571)^2\}}}$	**Valid**

	$= \frac{8892 - 7994}{\sqrt{(364 - 196)(348010 - 326041)}}$ $= \frac{898}{\sqrt{(168)(21969)}} = \frac{898}{\sqrt{3690792}} = \frac{898}{1921.14}$ $r_{xy} = -0.467$	
22.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(545) - (25)(571)}{\sqrt{\{(26)(25) - (25)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{14170 - 14275}{\sqrt{(650 - 625)(348010 - 326041)}}$ $= \frac{-105}{\sqrt{(25)(21969)}} = \frac{-105}{\sqrt{549225}} = \frac{-105}{741,09}$ $r_{xy} = -0.141$	**Invalid**
23.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(485) - (21)(571)}{\sqrt{\{(26)(21) - (21)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{12610 - 11991}{\sqrt{(546 - 441)(348010 - 326041)}}$ $= \frac{619}{\sqrt{(105)(21969)}} = \frac{619}{\sqrt{2306745}} = \frac{619}{1518.79}$ $r_{xy} = 0.407$	**Valid**

24.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(527)-(24)(571)}{\sqrt{\{(26)(24)-(24)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{13702-13704}{\sqrt{(624-576)(348010-326041)}}$ $= \frac{-2}{\sqrt{(48)(21969)}} = \frac{-2}{\sqrt{1054512}} = \frac{-2}{1026.89}$ $r_{xy} = -0.001$	**Invalid**
25.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(490)-(21)(571)}{\sqrt{\{(26)(21)-(21)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{12740-11991}{\sqrt{(546-441)(348010-326041)}}$ $= \frac{749}{\sqrt{(105)(21969)}} = \frac{749}{\sqrt{2306745}} = \frac{749}{1518.79}$ $r_{xy} = 0.493$	**Valid**
26.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(248)-(11)(571)}{\sqrt{\{(26)(11)-(11)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{6448-6281}{\sqrt{(286-121)(348010-326041)}}$	**Invalid**

	$= \frac{167}{\sqrt{(165)(21969)}} = \frac{167}{\sqrt{3624885}} = \frac{167}{1903.91}$ $r_{xy} = 0.087$	
27.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(460) - (21)(571)}{\sqrt{\{(26)(21) - (21)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{11960 - 11991}{\sqrt{(546 - 441)(348010 - 326041)}}$ $= \frac{-31}{\sqrt{(105)(21969)}} = \frac{-31}{\sqrt{2306745}} = \frac{-31}{1518.79}$ $r_{xy} = -0.020$	**Invalid**
28.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(176) - (8)(571)}{\sqrt{\{(26)(8) - (8)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{4576 - 4568}{\sqrt{(208 - 64)(348010 - 326041)}}$ $= \frac{8}{\sqrt{(144)(21969)}} = \frac{8}{\sqrt{3163536}} = \frac{8}{1778.63}$ $r_{xy} = -0.004$	**Invalid**
29.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$	**Invalid**

	$= \frac{26(537)-(24)(571)}{\sqrt{\{(26)(24)-(24)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{13962-13704}{\sqrt{(624-576)(348010-326041)}}$ $= \frac{258}{\sqrt{(48)(21969)}} = \frac{258}{\sqrt{1054512}} = \frac{258}{1026.89}$ r_{xy} = 0.251	
30.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(330)-(14)(571)}{\sqrt{\{(26)(14)-(14)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{8580-7994}{\sqrt{(364-196)(348010-326041)}}$ $= \frac{586}{\sqrt{(168)(21969)}} = \frac{586}{\sqrt{3690792}} = \frac{586}{1921.14}$ r_{xy} = 0.305	**Invalid**
31.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(258)-(10)(571)}{\sqrt{\{(26)(10)-(10)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{6708-5710}{\sqrt{(260-100)(348010-326041)}}$ $= \frac{998}{\sqrt{(160)(21969)}} = \frac{998}{\sqrt{3515040}} = \frac{998}{1874.84}$	**Valid**

	r_{xy} = 0.532	
32.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(273)-(11)(571)}{\sqrt{\{(26)(11)-(11)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{7098-6281}{\sqrt{286-121)(348010-326041)}}$ $= \frac{817}{\sqrt{(165)(21969)}} = \frac{817}{\sqrt{3624885}} = \frac{817}{1903.91}$ r_{xy} = 0.429	**Valid**
33.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(424)-(18)(571)}{\sqrt{\{(26)(18)-(18)^2\}\{(26)(13385)-(571)^2\}}}$ $= \frac{11024-10278}{\sqrt{(468-324)(348010-326041)}}$ $= \frac{746}{\sqrt{(144)(21969)}} = \frac{746}{\sqrt{3163536}} = \frac{746}{1778.63}$ r_{xy} = 0.419	**Valid**
34.	$r_{xy} = \frac{N\sum XY-(\sum X)(\sum Y)}{\sqrt{\{N\sum X^2-(\sum X)^2\}\{N\sum Y^2-(\sum Y)^2\}}}$ $= \frac{26(316)-(13)(571)}{\sqrt{\{(26)(13)-(13)^2\}\{(26)(13385)-(571)^2\}}}$	**Valid**

	$= \frac{8216 - 7423}{\sqrt{(338 - 169)(348010 - 326041)}}$ $= \frac{793}{\sqrt{(169)(21969)}} = \frac{793}{\sqrt{3712761}} = \frac{793}{1926.85}$ r_{xy} = 0.412	
35.	$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$ $= \frac{26(526) - (23)(571)}{\sqrt{\{(26)(23) - (23)^2\}\{(26)(13385) - (571)^2\}}}$ $= \frac{13676 - 13133}{\sqrt{(598 - 529)(348010 - 326041)}}$ $= \frac{543}{\sqrt{(69)(21969)}} = \frac{543}{\sqrt{1515861}} = \frac{543}{1231.20}$ r_{xy} = −0.441	**Valid**

Table 4.2

The Validity Computation by using SPSS Calculation

Correlations

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Q1	Pearson Correlation	1	.498**	.513**	.000	.426*	.337	.498**	-.310
	Sig. (2-tailed)		.010	.007	1.000	.030	.092	.010	.123
	N	26	26	26	26	26	26	26	26
Q2	Pearson Correlation	.498**	1	.422*	-.078	.389*	.197	.527**	.031
	Sig. (2-tailed)	.010		.032	.705	.049	.335	.006	.879
	N	26	26	26	26	26	26	26	26
Q3	Pearson Correlation	.513**	.422*	1	.361	.120	.286	.178	-.010
	Sig. (2-tailed)	.007	.032		.070	.558	.157	.384	.962
	N	26	26	26	26	26	26	26	26
Q4	Pearson Correlation	.000	-.078	.361	1	-.077	.474*	.078	-.081
	Sig. (2-tailed)	1.000	.705	.070		.709	.014	.705	.695
	N	26	26	26	26	26	26	26	26
Q5	Pearson Correlation	.426*	.389*	.120	-.077	1	.158	.701**	-.243

	Sig. (2-tailed)	.030	.049	.558	.709		.440	.000	.233
	N	26	26	26	26	26	26	26	26
Q6	Pearson Correlation	.337	.197	.286	.474*	.158	1	.357	-.256
	Sig. (2-tailed)	.092	.335	.157	.014	.440		.073	.207
	N	26	26	26	26	26	26	26	26
Q7	Pearson Correlation	.498**	.527**	.178	.078	.701**	.357	1	-.296
	Sig. (2-tailed)	.010	.006	.384	.705	.000	.073		.142
	N	26	26	26	26	26	26	26	26
Q8	Pearson Correlation	-.310	.031	-.010	-.081	-.243	-.256	-.296	1
	Sig. (2-tailed)	.123	.879	.962	.695	.233	.207	.142	
	N	26	26	26	26	26	26	26	26
Q9	Pearson Correlation	.138	.195	.243	.243	.081	.243	.031	-.020
	Sig. (2-tailed)	.502	.340	.231	.233	.695	.232	.879	.924
	N	26	26	26	26	26	26	26	26
Q10	Pearson Correlation	.234	.284	.198	.000	.183	.318	.099	-.177
	Sig. (2-tailed)	.251	.159	.333	1.000	.372	.114	.629	.387
	N	26	26	26	26	26	26	26	26

Q11	Pearson Correlation	.222	.358	.052	.260	.087	.302	.358	-.077
	Sig. (2-tailed)	.276	.073	.800	.199	.674	.134	.073	.708
	N	26	26	26	26	26	26	26	26
Q12	Pearson Correlation	.066	.370	.178	.078	-.078	.197	.055	.359
	Sig. (2-tailed)	.747	.063	.384	.705	.705	.335	.791	.072
	N	26	26	26	26	26	26	26	26
Q13	Pearson Correlation	.362	.031	-.010	.081	.081	.409*	.359	-.190
	Sig. (2-tailed)	.069	.879	.962	.695	.695	.038	.072	.354
	N	26	26	26	26	26	26	26	26
Q14	Pearson Correlation	.426*	.545**	.361	-.077	.385	.316	.389*	.081
	Sig. (2-tailed)	.030	.004	.070	.709	.052	.116	.049	.695
	N	26	26	26	26	26	26	26	26
Q15	Pearson Correlation	-.138	-.359	.263	.404*	-.081	-.077	-.195	.020
	Sig. (2-tailed)	.502	.072	.195	.041	.695	.710	.340	.924
	N	26	26	26	26	26	26	26	26
Q16	Pearson Correlation	.033	.144	.390*	.309	.000	.098	-.012	.137
	Sig. (2-tailed)	.873	.482	.049	.125	1.000	.635	.954	.504
	N	26	26	26	26	26	26	26	26

Q17	Pearson Correlation	.640**	.610**	.281	.167	.333	.356	.610**	-.310
	Sig. (2-tailed)	.000	.001	.165	.416	.096	.074	.001	.123
	N	26	26	26	26	26	26	26	26
Q18	Pearson Correlation	.272	.455*	.659**	.365	.000	.245	.270	.177
	Sig. (2-tailed)	.178	.020	.000	.067	1.000	.227	.182	.387
	N	26	26	26	26	26	26	26	26
Q19	Pearson Correlation	-.154	-.066	-.130	-.120	.120	.038	.178	-.263
	Sig. (2-tailed)	.453	.750	.525	.558	.558	.854	.384	.195
	N	26	26	26	26	26	26	26	26
Q20	Pearson Correlation	.033	-.012	-.093	.000	.309	.256	.144	.299
	Sig. (2-tailed)	.873	.954	.652	1.000	.125	.207	.482	.137
	N	26	26	26	26	26	26	26	26
Q21	Pearson Correlation	.461*	.456*	.390*	.309	.154	.415*	.456*	-.349
	Sig. (2-tailed)	.018	.019	.049	.125	.452	.035	.019	.080
	N	26	26	26	26	26	26	26	26
Q22	Pearson Correlation	-.085	.234	-.072	-.200	.200	-.253	-.171	-.146
	Sig. (2-tailed)	.679	.251	.726	.327	.327	.212	.403	.478
	N	26	26	26	26	26	26	26	26
Q23	Pearson Correlation	.062	.175	-.176	.293	.098	.185	.175	.055
	Sig. (2-tailed)	.762	.393	.389	.147	.635	.365	.393	.789

	N	26	26	26	26	26	26	26	26
Q24	Pearson Correlation	-.123	-.247	-.104	.289	-.289	.228	-.247	-.210
	Sig. (2-tailed)	.549	.223	.612	.153	.153	.262	.223	.303
	N	26	26	26	26	26	26	26	26
Q25	Pearson Correlation	.333	.175	.435*	.098	.098	.386	.175	.055
	Sig. (2-tailed)	.097	.393	.026	.635	.635	.052	.393	.789
	N	26	26	26	26	26	26	26	26
Q26	Pearson Correlation	-.066	-.212	-.178	-.078	-.078	.123	.103	-.031
	Sig. (2-tailed)	.747	.298	.384	.705	.705	.549	.616	.879
	N	26	26	26	26	26	26	26	26
Q27	Pearson Correlation	.062	.175	-.176	-.488*	.098	-.015	-.023	.260
	Sig. (2-tailed)	.762	.393	.389	.011	.635	.940	.912	.199
	N	26	26	26	26	26	26	26	26
Q28	Pearson Correlation	-.178	-.272	-.020	.000	.000	-.013	-.104	.135
	Sig. (2-tailed)	.385	.178	.922	1.000	1.000	.949	.614	.512
	N	26	26	26	26	26	26	26	26
Q29	Pearson Correlation	-.123	.045	-.104	.289	.000	.228	.337	-.210
	Sig. (2-tailed)	.549	.827	.612	.153	1.000	.262	.092	.303
	N	26	26	26	26	26	26	26	26
Q30	Pearson Correlation	.247	.456*	.390*	.309	.154	.256	.456*	-.025

	Sig. (2-tailed)	.224	.019	.049	.125	.452	.207	.019	.904
	N	26	26	26	26	26	26	26	26
Q31	Pearson Correlation	.118	.037	.286	.316	.000	.513**	.037	-.089
	Sig. (2-tailed)	.566	.858	.157	.116	1.000	.007	.858	.664
	N	26	26	26	26	26	26	26	26
Q32	Pearson Correlation	.365	.261	.309	-.078	.234	.123	.103	.132
	Sig. (2-tailed)	.067	.198	.124	.705	.251	.549	.616	.520
	N	26	26	26	26	26	26	26	26
Q33	Pearson Correlation	-.053	-.065	.281	.500**	.167	.184	-.065	.040
	Sig. (2-tailed)	.796	.753	.165	.009	.416	.367	.753	.845
	N	26	26	26	26	26	26	26	26
Q34	Pearson Correlation	.213	.234	.361	.077	.231	.316	.078	-.243
	Sig. (2-tailed)	.296	.251	.070	.709	.257	.116	.705	.233
	N	26	26	26	26	26	26	26	26
Q35	Pearson Correlation	-.154	.178	.246	.361	-.120	.286	-.066	.243
	Sig. (2-tailed)	.453	.384	.225	.070	.558	.157	.750	.231
	N	26	26	26	26	26	26	26	26
TOTAL	Pearson Correlation	.502**	.568**	.568**	.425*	.398*	.657**	.540**	-.019
	Sig. (2-tailed)	.009	.002	.002	.030	.044	.000	.004	.926
	N	26	26	26	26	26	26	26	26

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

1.1.2 The Reliability of Tryout Test

The Formula :

$$r_{11} = \frac{2\, r_{xy}}{1 + r_{xy}}$$

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

$$= \frac{26(3237) - (328)(243)}{\sqrt{\{(26)(4402) - (328)^2\}\{(26)(2549) - (243)^2\}}}$$

$$= \frac{84162 - 79704}{\sqrt{(114452 - 107584)(66274 - 59049)}}$$

$$= \frac{4458}{\sqrt{(6868)(7225)}} = \frac{4458}{\sqrt{49621300}} = \frac{448}{7044.23}$$

r_{xy} = 0.63

The reliability of half test score is 0.63. it is calculated by using “Spearman-Brown” formula as follow :

$r_{11} = \frac{2\, r_{xy}}{1 + r_{xy}}$

$r_{11} = \frac{2 \text{ x } 0.633}{1 + 0.633}$

$r_{11} = \frac{1.266}{1.633}$

r_{11} = 0.77

Table 4.3

The Reliability Computation by using SPSS Calculation

Case Processing Summary

		N	%
Cases	Valid	26	100.0
	Excluded[a]	0	.0
	Total	26	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.812	.801	35

From the SPSS calculation described that in Cronbach's Alpha column was 0.812. this was reliability of the KR-20 associated with the items. There was difference at a digit behind comma. Reliability in manual calculation was 0.775 and in SPSS was 0.812. But both of them were same because they were higher than r_{table}= 0.388. So it can be said that the instrument of the research was reliable (high reliability).

1.2 The Data Description

This section showed the general description of students' score in experimental and control group. The description just showed the post-test score between experimental group and control group.

1.2.1 The Post-test Score of Experiment Group

After giving treatment for twice to the students by teaching reading hortatory exposition text, and giving the test for 3^{rd} meeting to know the reading comprehension on Hortatory Exposition text of the eleventh grade students of MA Darul Hikmah Menganti Kedung Jepara academic year 2017/2018 taught by using Cooperative Integrated Reading and Composition (CIRC) technique, the writer obtained the high score is 100 and the lowest score is 68 as follows :

Table 4.4

The student's post-test score of Reading comprehension on Hortatory Exposition Text of the eleventh grade students of MA Darul Hikmah Menganti Kedung Jepara by using Cooperative Integrated Reading and Composition (CIRC) Technique

Students Number	Score	Students Number	Score
1	**76**	18	**76**
2	**68**	19	**92**
3	**80**	20	**68**
4	**68**	21	**76**
5	**76**	22	**68**
6	**84**	23	**88**
7	**88**	24	**96**
8	**76**	25	**76**
9	**100**	26	**100**
10	**100**	27	**80**
11	**84**	28	**96**
12	**68**	29	**76**
13	**88**	30	**76**
14	**96**	31	**96**
15	**84**	32	**76**

16	**84**	33	**88**
17	**68**	34	**84**
∑	**2855**		
Mean	**83.9**		

1.2.2 The Post-test Score of Control Group

After conducting the test to control group to know the student's reading comprehension on hortatory exposition text of the eleventh grade students of MA Darul Hikmah Menganti Kedung Jepara academic year 2017/2018 taught by using three phase technique, the writer got the highest score is 80 and the lowest score is 60 as follows:

Table 4.5

The Student's Post-test Score of Reading Comprehension on Hortatory Exposition Text of the Eleventh Grade Students of MA Darul Hikmah Menganti Kedung Jepara Taught by Using Three Phase Technique

Students Number	Score	Students Number	Score
1	**68**	18	**68**

2	**68**	19	**80**
3	**76**	20	**68**
4	**65**	21	**76**
5	**72**	22	**68**
6	**65**	23	**80**
7	**65**	24	**65**
8	**76**	25	**68**
9	**80**	26	**80**
10	**80**	27	**80**
11	**68**	28	**64**
12	**65**	29	**72**
13	**80**	30	**68**
14	**72**	31	**60**
15	**68**	32	**76**
16	**72**	33	**72**
17	**76**	34	**65**
∑	**2426**		
Mean	**71.4**		

1.3 The Data Analysis

This section was intended to answer the research question How effective is Cooperative Integrated Reading and Composition (CIRC) Technique in teaching reading comprehension on hortatory exposition text of the eleventh grade students of MA Darul Hikmah Menganti academic year 2017/2018 or not. T-test was used to answer the research question and conducted in both the experimental group and control group by manual calculation as follows :

Table 4.6

The Comparison Scores of Each Students in the Experimental Group and Control Group

Student Number	X	Y	X-MX	Y-MY	$(X-MX)^2$	$(Y-MY)^2$
1	76	68	-6.35	-3.35	40.4	11.24
2	68	68	-14.35	-3.35	206	11.24
3	80	76	-2.35	4.65	5.54	21.6
4	68	65	-14.35	-6.35	206	40.36
5	76	72	-6.35	0.65	40.4	0.419
6	84	65	1.65	-6.35	2.71	40.36
7	88	65	5.65	-6.35	31.9	40.36
8	76	76	-6.35	4.65	40.4	21.6
9	100	80	17.65	8.65	311	74.77
10	100	80	17.65	8.65	311	74.77
11	84	68	1.65	-3.35	2.71	11.24
12	68	65	-14.35	-6.35	206	40.36
13	88	80	5.65	8.65	31.9	74.77
14	96	72	13.65	0.65	186	0.419
15	84	68	1.65	-3.35	2.71	11.24
16	84	72	1.65	0.65	2.71	0.419
17	68	76	-14.35	4.65	206	21.6
18	76	68	-6.35	-3.35	40.4	11.24
19	92	80	9.65	8.65	93.1	74.77
20	68	68	-14.35	-3.35	206	11.24
21	76	76	-6.35	4.65	40.4	21.6
22	68	68	-14.35	-3.35	206	11.24
23	88	80	5.65	8.65	31.9	74.77
24	96	65	13.65	-6.35	186	40.36
25	76	68	-6.35	-3.35	40.4	11.24
26	100	80	17.65	8.65	311	74.77
27	80	80	-2.35	8.65	5.54	74.77
28	96	64	13.65	-7.35	186	54.07
29	76	72	-6.35	0.65	40.4	0.419
30	76	68	-6.35	-3.35	40.4	11.24
31	96	60	13.65	-11.4	186	128.9

32	76	76	-6.35	4.65	40.4	21.6
33	88	72	5,65	0.65	31.9	0.419
34	84	65	1.65	-6.35	2.71	40.36
∑	2800	2426	-0	-0	3524	1160
Mean	82.4	71.4	-0	-0	104	34.11

The steps of calculation are as follow :

a. The mean of variable X

$$M_x = \frac{\sum X}{N_1}$$

$$= \frac{2.800}{34}$$

$$= 82.35$$

b. The mean of variable Y

$$M_y = \frac{\sum Y}{N_2}$$

$$= \frac{2426}{34}$$

$$= 71.35$$

c. Determining standard of deviation score of variable X

$$SD_x = \sqrt{\frac{\sum X^2}{N_1}}$$

$$= \sqrt{\frac{3524}{34}}$$

$$= 10.18$$

d. Determining standard of deviation score of variable Y

$$SD_y = \sqrt{\frac{\sum Y^2}{N_2}}$$

$$= \sqrt{\frac{1160}{34}}$$

$$= 5.84$$

e. Determining Standard Error Mean of variable X, with formula:

$$SE_{M_x} = \frac{SD_1}{\sqrt{N_1 - 1}}$$

$$= \frac{SD_1}{\sqrt{N_1 - 1}}$$

$$= \frac{10.18}{\sqrt{34 - 1}}$$

$$= \frac{10.18}{\sqrt{33}}$$

$$= 1.77$$

f. Determining Standard Error Mean of variable Y, with formula:

$$SE_y = \frac{SD_2}{\sqrt{N_2 - 1}}$$

$$= \frac{5.84}{\sqrt{34 - 1}}$$

$$= \frac{5.84}{\sqrt{33}}$$

$$= 1.02$$

g. Determining standard error of different mean of variable X and mean of variable Y, with formula :

$$SE_{M_{x-M_y}} = \sqrt{SE_{M_x}{}^2 + SE_{M_y}{}^2}$$

$$= \sqrt{(1.77)^2 + (1.02)^2}$$

$$= \sqrt{3.1329 + 1.0404}$$

$$= \sqrt{4.1733}$$

$$= 2.04$$

h. Determining t_0, with formula :

$$t_0 = \frac{M_1 - M_2}{SE_{M_1 - M_2}}$$

$$= \frac{82.35 - 71.35}{2.04}$$

$$= \frac{11}{2.04}$$

$$t_0 = 5.39$$

i. Determining Degrees of Freedom (df), with formula:

$$df = (N_1 + N_2) - 2$$

$$= (34+34) - 2$$

$$= 68 - 2$$

$$df = 66$$

Table 4.7

The t-test Computation by using SPSS Calculation

Group Statistics

	students	N	Mean	Std. Deviation	Std. Error Mean
posttest	experiment group	34	82.3529	10.33348	1.77218
	control group	34	71.3529	5.92827	1.01669

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Posttest	Equal variances assumed	11.879	.001	5.384	66	.000	11.00000	2.04310	6.92081	15.07919
	Equal variances not assumed			5.384	52.599	.000	11.00000	2.04310	6.90133	15.09867

The result of calculating the data can be seen in the table below :

Table 4.8

The Result of the Student's Reading Comprehension on Hortatory Exposition Text of the Eleventh Grade Students by Using Cooperative Integrated Reading and Composition (CIRC) Technique and Taught by Using Three Phase Technique

Group	N	Mean	SD	Df	t-table	t-observation
Experimental	34	82.35	10.18	66	1.99	5.39
Control	34	71.35	5.84			

From the table 4.8, we know that CIRC technique gave significant differences between the student's reading comprehension on Hortatory Exposition text of the eleventh grade students of MA Darul Hikmah Kedung Jepara academic year 2017/2018 taught by using cooperative integrated reading and composition (CIRC) technique and those who are taught by using three phase technique. The t-observation ($t_{observation}$) is 5.39 > t-table (1.99) in level of significance 5%. Therefore the null hypothesis was rejected and the alternative hypothesis was accepted. It means that there is significance difference between the student's reading comprehension on Hortatory Exposition text of the Eleventh Grade Students of MA Darul Hikmah Menganti Kedung Jepara Academic Year 2017/2018 taught by using Cooperative Integrated Reading and Composition (CIRC) technique and those who are taught by using Three Phase technique.

1.4 The Data Interpretation

In this section, the writer explained the interpretation of the research finding and summarized the hypothesis. The research was held to answer the problem whether the use of Cooperative Integrated Reading and Composition (CIRC) technique is effective to teach reading comprehension on hortatory exposition text of the eleventh grade students of MA Darul Hikmah Menganti Kedung Jepara academic year 2017/2018. In order to answer this question the writer states the Alternative Hypothesis (Ha) and the Null Hypothesis (Ho) as follow :

a. The Null Hypothesis (Ho): there is no significant difference between students who are taught by using CIRC technique in teaching reading comprehension on hortatory exposition text than the students who are taught by using Three Phase technique.
b. The Alternative Hypothesis (Ha): there is a significant difference between students who are taught by using CIRC technique in teaching reading comprehension on hortatory exposition text than the students who are taught by using Three Phase technique.

To prove the hypothesis, the data in experimental and control group is calculated by using t-test formula with assumption as follows :

1. If $t_o > t_{table}$, The Null Hypothesis (Ho) was rejected and Alternative Hypothesis (Ha) was accepted. It was means that CIRC technique is effective in teaching reading comprehension.
2. If $t_o < t_{table}$, The Null Hypothesis (Ho) was accepted and the Alternative Hypothesis (Ha) was rejected. It was means that CIRC technique was not effective in teaching reading comprehension.

According to the analysis of the result above, there was a significant difference between the post-test score in the experimental and control group. Both of t-test result by using SPSS and manual formula were the same, although there was little difference in any digit the behind comma. The result of calculation of t-test the writer got the data as follow: M_x= 82.35 , M_y= 71.35 , SD_x = 10.18 in manual calculation and SD_x = 10.33 in SPSS calculation, SD_y= 5.84 in manual calculation and SD_y= 5.93 in SPSS calculation, SE_{M_x}= 1.77 , SE_{M_y}= 1.02 , $SE_{M_{x-M_y}}$ = 2.04 , t_{table} = 1.99, t_{66} = 5.39.

The result of the data that the t-test was higher than t-table (5.39 > 1.99). It can be said that there is significant difference teaching reading comprehension on hortatory exposition text taught by using Cooperative Integrated Reading and Composition technique than teaching reading comprehension on hortatory exposition text taught by using three phase technique.

From the result above, the writer has opinion that teaching reading comprehension by using Cooperative Integrated Reading and Composition technique was effective and more interested than teaching reading by using Three Phase technique.