**CHAPTER FOUR**

**TESTING HYPOTHESIS**

To analyze the data collected properly, four (4) hypotheses were tested to show the difference between Null Hypothesis (H0) and Alternative hypothesis (H1).

Chi-square Method was used in testing the hypothesis.

X2 = Chi-square

∑ = Summation

O = Observation

E = Expected Frequency

0.05 = Level of significant.

**HYPOTHESIS ONE**: Most teachers of computer studies are not practically competent enough to teach the subject.

**Observed Frequency**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AGREED | DISAGREED | Total |
| 1 | 13 | 07 | 20 |
| 2 | 12 | 07 | 19 |
| 3 | 12 | 06 | 18 |
| 4 | 09 | 06 | 15 |
| Total | 46 | 26 | 72 |

**Expected Frequency**

|  |  |  |
| --- | --- | --- |
|  | AGREED | DISAGREED |
| 1 | 12.78 | 7.22 |
| 2 | 12.14 | 6.86 |
| 3 | 11.5 | 6.5 |
| 4 | 9.58 | 5.42 |

|  |  |  |  |
| --- | --- | --- | --- |
| Oij | Eij | O - E | (O – E)2  E |
| 13 | 12.78 | 0.22 | 0.004 |
| 07 | 7.22 | -0.22 | 0.007 |
| 12 | 12.14 | -0.14 | 0.002 |
| 07 | 6.86 | 0.14 | 0.003 |
| 12 | 11.50 | 0.50 | 0.022 |
| 06 | 6.50 | -0.50 | 0.039 |
| 09 | 9.58 | -0.58 | 0.035 |
| 06 | 5.42 | 0.58 | 0.062 |
|  |  |  | 0.174 |

X2cal = ∑n*i* = 1 (Oij – Eij)2 = 0.174

Eij

X2tab = X20.05, dF = X20.05, 3 = 7.81

Since the X2cal < X2tab i.e 0.174 < 7.81, the researcher accepted the null hypothesis and conclude that most teachers of computer studies are not practically competent enough to teach the subject.

**HYPOTHESIS TWO:** The teacher teaching computer studies at the secondary school level hardly employed good motivation techniques to stimulated students interests in computer studies.

**Observed Frequency**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AGREED | DISAGREED | Total |
| 1 | 26 | 14 | 40 |
| 2 | 29 | 11 | 40 |
| 3 | 26 | 09 | 35 |
| 4 | 25 | 12 | 37 |
| Total | 106 | 46 | 152 |

**Expected Frequency**

|  |  |  |
| --- | --- | --- |
|  | A | D |
| 1 | 27.89 | 12.11 |
| 2 | 27.89 | 12.11 |
| 3 | 24.41 | 10.59 |
| 4 | 25.80 | 11.20 |

|  |  |  |  |
| --- | --- | --- | --- |
| Oij | Eij | O – E | (O – E)2  E |
| 26 | 27.89 | -1.89 | 0.128 |
| 14 | 12.11 | 1.89 | 0.295 |
| 29 | 27.89 | 1.11 | 0.044 |
| 11 | 12.11 | -1.11 | 0.102 |
| 26 | 24.41 | 1.59 | 0.104 |
| 09 | 10.59 | -1.59 | 0.239 |
| 25 | 25.80 | -0.8 | 0.025 |
| 12 | 11.20 | 0.8 | 0.057 |
|  |  |  | 0.994 |

X2cal = ∑n*i* = 1 (Oij – Eij)2 = 0.994

Eij

X2tab = X20.05, dF = X20.05, 3 = 7.81

Since the X2cal < X2tab i.e 0.994 < 7.81. Thus, the researcher accepted the null hypothesis and conclude “the teacher teaching computer studies at the secondary school level hardly employed good motivational techniques to stimulate students interests in computer studies.

**HYPOTHESIS THREE**: There are no significant differences between the academic performances of rural and urban students in their academic in computer science.

**Observed Frequency**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AGREED | DISAGREED | Total |
| 1 | 23 | 55 | 78 |
| 2 | 26 | 54 | 80 |
| 3 | 15 | 65 | 80 |
| 4 | 20 | 60 | 80 |
| Total | 84 | 234 | 318 |

**Expected Frequency**

|  |  |  |
| --- | --- | --- |
|  | A | D |
| 1 | 21.70 | 57.65 |
| 2 | 21.03 | 58.07 |
| 3 | 21.03 | 58.07 |
| 4 | 21.03 | 58.07 |

|  |  |  |  |
| --- | --- | --- | --- |
| Oij | Eij | O – E | (O – E)2  E |
| 23 | 21.70 | 1.30 | 0.088 |
| 55 | 57.65 | -2.65 | 0.152 |
| 26 | 21.03 | 4.97 | 1.895 |
| 54 | 58.07 | -4.97 | 0.097 |
| 15 | 21.03 | -6.03 | 3.183 |
| 65 | 58.07 | 6.93 | 1.285 |
| 20 | 21.03 | -1.03 | 0.466 |
| 65 | 58.07 | 1.93 | 0.696 |
|  |  |  | 7.86 |

X2cal = ∑n*i* = 1 (Oij – Eij)2 = 7.86

Eij

X2tab = X20.05, dF = X20.05, 3 = 7.81

Since the X2cal < X2tab i.e 7.86 < 7.81, the researcher reject the null hypothesis and conclude that there is a significant difference between the performance of rural and urban students in the performances in computer science.

**HPOTHESIS FOUR:** Many students are ignorant of the importance of computer science to their future career.

**Observed Frequency**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AGREED | DISAGREED | Total |
| 1 | 26 | 14 | 40 |
| 2 | 24 | 14 | 38 |
| 3 | 25 | 15 | 40 |
| 4 | 17 | 13 | 30 |
| Total | 92 | 56 | 148 |

**Expected Frequency**

|  |  |  |
| --- | --- | --- |
|  | AGREED | DISAGREED |
| 1 | 24.86 | 15.14 |
| 2 | 23.62 | 14.38 |
| 3 | 24.86 | 15.14 |
| 4 | 18.65 | 11.35 |

|  |  |  |  |
| --- | --- | --- | --- |
| Oij | Eij | O – E | (O – E)2  E |
| 26 | 24.86 | 1.14 | 0.052 |
| 14 | 15.14 | -1.14 | 0.086 |
| 24 | 23.62 | 0.38 | 0.006 |
| 14 | 14.38 | -0.38 | 0.001 |
| 25 | 24.86 | 0.14 | 0.001 |
| 15 | 15.14 | -0.14 | 0.001 |
| 17 | 18.65 | -1.65 | 0.146 |
| 13 | 11.35 | 1.65 | 0.239 |
|  |  |  | 0.531 |

X2cal = ∑n*i* = 1 (Oij – Eij) 2 = 0.531

Eij

X2tab = X20.05, dF = X20.05, 3 = 7.81

Since the X2cal < X2tab i.e. 0.531 < 7.81. Thus, the researcher accepted the null hypothesis and concludes that many students are ignorant of the importance of computer studies to their future career.