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APÊNDICE J

TESTE NÃO PARAMÉTRICO DE INDEPENDÊNCIA, QUI-QUADRADO

Turma * Variáveis e Constantes

Crosstab

| Count | | Variáveis e Constantes | | | | Total |
|-------|-----------------------------|------------------------|----|----|----|-------|
| | | 1 | 2 | 3 | 4 | |
| Turma | Integrado - 2010 | 0 | 0 | 4 | 32 | 36 |
| | Subsequente - 2010 - 2º Sem | 1 | 10 | 6 | 8 | 25 |
| Total | | 1 | 10 | 10 | 40 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 24,617 ^a | 3 | ,000 |
| Likelihood Ratio | 29,077 | 3 | ,000 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is ,41.

Turma * Fluxograma

| Count | | Crosstab | | | |
|-------|-----------------------------|------------|----|----|---------|
| | | Fluxograma | | | |
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado – 2010 | 21 | 4 | 8 | 3 36 |
| | Subsequente - 2010 - 2° Sem | 15 | 6 | 3 | 1 25 |
| Total | | 36 | 10 | 11 | 4 61 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 2,780 ^a | 3 | ,427 |
| Likelihood Ratio | | | |
| N of Valid Cases | 2,818 | 3 | ,421 |
| | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 1,64.

Turma * Diagrama de Blocos

| Count | | Crosstab | | | |
|-------|-----------------------------|--------------------|----|---|---------|
| | | Diagrama de Blocos | | | |
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 26 | 7 | 1 | 2 36 |
| | Subsequente - 2010 - 2° Sem | 18 | 4 | 3 | 0 25 |
| Total | | 44 | 11 | 4 | 2 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 3,400 ^a | 3 | ,334 |
| Likelihood Ratio | 4,116 | 3 | ,249 |
| N of Valid Cases | 61 | | |

a. 5 cells (62,5%) have expected count less than 5. The minimum expected count is ,82.

Turma * Diagrama de Chapin

| Count | | Crosstab | | | |
|-------|-----------------------------|--------------------|---|---|-------|
| | | Diagrama de Chapin | | | |
| | | 1 | 2 | 4 | Total |
| Turma | Integrado - 2010 | 33 | 1 | 2 | 36 |
| | Subsequente - 2010 - 2º Sem | 20 | 5 | 0 | 25 |
| Total | | 53 | 6 | 2 | 61 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 6,069 ^a | 2 | ,048 |
| Likelihood Ratio | 6,911 | 2 | ,032 |
| N of Valid Cases | 61 | | |

a. 4 cells (66,7%) have expected count less than 5. The minimum expected count is ,82.

Turma * Português Estruturado

| Count | | Crosstab |
|-------|--|-----------------------|
| | | Português Estruturado |
| | | |

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Teste não paramétrico de independência, qui-quadrado

| | | 1 | 2 | 3 | 4 | Total |
|-------|-----------------------------|----|----|---|----|-------|
| Turma | Integrado - 2010 | 11 | 5 | 3 | 17 | 36 |
| | Subsequente - 2010 - 2º Sem | 13 | 7 | 4 | 1 | 25 |
| Total | | 24 | 12 | 7 | 18 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 13,314 ^a | 3 | ,004 |
| Likelihood Ratio | 15,880 | 3 | ,001 |
| N of Valid Cases | 61 | | |

a. 3 cells (37,5%) have expected count less than 5. The minimum expected count is 2,87.

Turma * Operadores Lógicos Relacionais

Crosstab

| Count | | Operadores Lógicos Relacionais | | | | Total |
|-------|-----------------------------|--------------------------------|----|----|----|-------|
| | | 1 | 2 | 3 | 4 | |
| Turma | Integrado - 2010 | 1 | 2 | 5 | 28 | 36 |
| | Subsequente - 2010 - 2º Sem | 7 | 8 | 9 | 1 | 25 |
| Total | | 8 | 10 | 14 | 29 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 33,486 ^a | 3 | ,000 |
| Likelihood Ratio | 39,584 | 3 | ,000 |

N of Valid Cases 61

a. 3 cells (37,5%) have expected count less than 5. The minimum expected count is 3,28.

Turma * Desvio Condicional

| Count | | Crosstab | | | | |
|-------|-----------------------------|--------------------|---|---|----|-------|
| | | Desvio Condicional | | | | |
| | | 1 | 2 | 3 | 4 | Total |
| Turma | Integrado - 2010 | 1 | 0 | 3 | 32 | 36 |
| | Subsequente - 2010 - 2º Sem | 15 | 2 | 6 | 2 | 25 |
| Total | | 16 | 2 | 9 | 34 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 41,073 ^a | 3 | ,000 |
| Likelihood Ratio | 48,418 | 3 | ,000 |
| N of Valid Cases | 61 | | |

a. 3 cells (37,5%) have expected count less than 5. The minimum expected count is ,82.

Turma * Laços Malha Loop

Count

| Count | | Laços Malha Loop | | | |
|-------|------------------|------------------|---|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 19 | 7 | 5 | 5 36 |

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Teste não paramétrico de independência, qui-quadrado

| | | | | |
|-------|-----------------------------|------|---|------|
| | Subsequente - 2010 - 2º Sem | 20 1 | 3 | 1 25 |
| Total | | 39 8 | 8 | 6 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 5,901 ^a | 3 | ,117 |
| Likelihood Ratio | 6,510 | 3 | ,089 |
| N of Valid Cases | 61 | | |

a. 6 cells (75,0%) have expected count less than 5. The minimum expected count is 2,46.

Turma * Matrizes

Count

| | | Matrizes | | |
|-------|-----------------------------|----------|------|-------|
| | | 1 | 23 4 | Total |
| Turma | Integrado - 2010 | 5 22 | 5 4 | 36 |
| | Subsequente - 2010 - 2º Sem | 15 8 | 2 0 | 25 |
| Total | | 20 30 | 7 4 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 15,334 ^a | 3 | ,002 |
| Likelihood Ratio | 16,905 | 3 | ,001 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 1,64.

Turma * Sub-rotinas

Count

| | | Sub-rotinas | | | |
|-------|-----------------------------|-------------|----|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 13 | 15 | 6 | 2 36 |
| | Subsequente - 2010 - 2º Sem | 22 | 2 | 1 | 0 25 |
| Total | | 35 | 17 | 7 | 2 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 16,376 ^a | 3 | ,001 |
| Likelihood Ratio | 18,333 | 3 | ,000 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is ,82.

Turma * Variáveis Globais e Locais

Count

| | | Variáveis Globais e Locais | | | |
|-------|-----------------------------|----------------------------|----|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 21 | 9 | 3 | 3 36 |
| | Subsequente - 2010 - 2º Sem | 15 | 8 | 0 | 2 25 |
| Total | | 36 | 17 | 3 | 5 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--|-------|----|----------------------|
|--|-------|----|----------------------|

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Teste não paramétrico de independência, qui-quadrado

| | | | |
|--------------------|--------------------|---|------|
| Pearson Chi-Square | 2,352 ^a | 3 | ,503 |
| Likelihood Ratio | 3,429 | 3 | ,330 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 1,23.

Turma * Passagem de Parâmetro

Count

| | | Passagem de Parâmetro | | | |
|-------|-----------------------------|-----------------------|---|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 33 | 3 | 0 | 0 36 |
| | Subsequente - 2010 - 2º Sem | 22 | 1 | 1 | 1 25 |
| Total | | 55 | 4 | 1 | 1 61 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 3,325 ^a | 3 | ,344 |
| Likelihood Ratio | 4,039 | 3 | ,257 |
| N of Valid Cases | 61 | | |

a. 6 cells (75,0%) have expected count less than 5. The minimum expected count is ,41.

Turma * Campos Registros Arquivos

Count **Crosstab**

| | | Campos Registros Arquivos | | | |
|--|--|---------------------------|---|---|---------|
| | | 1 | 2 | 3 | 4 Total |

| | | | | | | |
|-------|-----------------------------|----|----|----|---|----|
| Turma | Integrado - 2010 | 11 | 15 | 9 | 1 | 36 |
| | Subsequente - 2010 - 2º Sem | 15 | 5 | 4 | 1 | 25 |
| Total | | 26 | 20 | 13 | 2 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 5,742 ^a | 3 | ,125 |
| Likelihood Ratio | 5,829 | 3 | ,120 |
| N of Valid Cases | 61 | | |

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is ,82.

Turma * Ponteiros

Crosstab

| Turma | | Ponteiros | | | |
|-------|-----------------------------|-----------|---|---------|----|
| | | 1 | 2 | 3 Total | |
| Turma | Integrado - 2010 | 29 | 6 | 1 | 36 |
| | Subsequente - 2010 - 2º Sem | 20 | 3 | 2 | 25 |
| Total | | 49 | 9 | 3 | 61 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 1,036 ^a | 2 | ,596 |
| Likelihood Ratio | 1,027 | 2 | ,598 |
| N of Valid Cases | 61 | | |

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Teste não paramétrico de independência, qui-quadrado

a. 3 cells (50,0%) have expected count less than 5. The minimum expected count is 1,23.

Turma * Linguagem Pascal

Crosstab

| Count | | Linguagem Pascal | | | Total |
|-------|-----------------------------|------------------|----|----|-------|
| | | 1 2 | 3 | 4 | |
| Turma | Integrado - 2010 | 0 0 | 9 | 27 | 36 |
| | Subsequente - 2010 - 2º Sem | 6 12 | 5 | 2 | 25 |
| Total | | 6 12 | 14 | 29 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 40,012 ^a | 3 | ,000 |
| Likelihood Ratio | 49,765 | 3 | ,000 |
| N of Valid Cases | 61 | | |

a. 3 cells (37,5%) have expected count less than 5. The minimum expected count is 2,46.

Turma * Linguagem Java C

Crosstab

| Count | | Linguagem Java C | | | Total |
|-------|-----------------------------|------------------|---|----|-------|
| | | 1 2 | 3 | 4 | |
| Turma | Integrado - 2010 | 11 20 | 5 | 16 | 36 |
| | Subsequente - 2010 - 2º Sem | 18 6 | 1 | 1 | 25 |

| | | | | |
|-------|----|----|---|----|
| Total | 29 | 26 | 6 | 61 |
|-------|----|----|---|----|

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 10,244 ^a | 2 | ,006 |
| Likelihood Ratio | 10,576 | 2 | ,005 |
| N of Valid Cases | 61 | | |

a. 2 cells (33,3%) have expected count less than 5. The minimum expected count is 2,46.

Turma * Linguagem Basic Visual Basic

Crosstab

| Count | | Linguagem Basic Visual Basic | | | |
|-------|-----------------------------|------------------------------|----|---|-------|
| | | 1 | 2 | 3 | Total |
| Turma | Integrado - 2010 | 21 | 13 | 2 | 36 |
| | Subsequente - 2010 - 2º Sem | 18 | 7 | 0 | 25 |
| Total | | 39 | 20 | 2 | 61 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 2,116 ^a | 2 | ,347 |
| Likelihood Ratio | 2,837 | 2 | ,242 |
| N of Valid Cases | 61 | | |

a. 2 cells (33,3%) have expected count less than 5. The minimum expected count is ,82.

Turma * Linguagem Assemby Basic

Crosstab

Count

| | | Linguagem Assemby Basic | | | |
|-------|-----------------------------|-------------------------|----|---|-------|
| | | 1 | 2 | 3 | Total |
| Turma | Integrado - 2010 | 26 | 9 | | 136 |
| | Subsequente - 2010 - 2º Sem | 21 | 4 | | 025 |
| Total | | 47 | 13 | | 161 |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 1,521 ^a | 2 | ,467 |
| Likelihood Ratio | 1,898 | 2 | ,387 |
| N of Valid Cases | 61 | | |

a. 2 cells (33,3%) have expected count less than 5. The minimum expected count is ,41.

Turma * Linguagem HTML

Count

| | | Linguagem HTML | | | |
|-------|-----------------------------|----------------|----|----|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 9 | 13 | 10 | 4 36 |
| | Subsequente - 2010 - 2º Sem | 12 | 6 | 4 | 3 25 |
| Total | | 21 | 19 | 14 | 7 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--|-------|----|----------------------|
|--|-------|----|----------------------|

| | | | |
|--------------------|--------------------|---|------|
| Pearson Chi-Square | 3,864 ^a | 3 | ,277 |
| Likelihood Ratio | 3,876 | 3 | ,275 |
| N of Valid Cases | 61 | | |

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is 2,87.

Turma * Linguagem Javascript Asp Php

| Count | | Crosstab | | | |
|-------|-----------------------------|------------------------------|----|---|---------|
| | | Linguagem Javascript Asp Php | | | |
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 17 | 16 | 3 | 0 36 |
| | Subsequente - 2010 - 2º Sem | 17 | 4 | 1 | 3 25 |
| Total | | 34 | 20 | 4 | 3 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 9,526 ^a | 3 | ,023 |
| Likelihood Ratio | 10,921 | 3 | ,012 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 1,23.

Turma * Linguagem estruturada

Count

| | | Linguagem estruturada | | | |
|--|--|-----------------------|---|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| | | | | | |

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Teste não paramétrico de independência, qui-quadrado

| | | | | | | |
|-------|-----------------------------|----|----|----|----|----|
| Turma | Integrado - 2010 | 3 | 5 | 8 | 20 | 36 |
| | Subsequente - 2010 - 2º Sem | 15 | 6 | 4 | 0 | 25 |
| Total | | 18 | 11 | 12 | 20 | 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|---------------------|----|----------------------|
| Pearson Chi-Square | 28,363 ^a | 3 | ,000 |
| Likelihood Ratio | 35,915 | 3 | ,000 |
| N of Valid Cases | 61 | | |

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is 4,51.

Turma * Programação Orientada Objetos

| Count | | Crosstab | | | | |
|-------|-----------------------------|-------------------------------|----|---|---|-------|
| | | Programação Orientada Objetos | | | | |
| | | 1 | 2 | 3 | 4 | Total |
| Turma | Integrado - 2010 | 21 | 10 | 5 | | 036 |
| | Subsequente - 2010 - 2º Sem | 17 | 5 | 2 | | 125 |
| Total | | 38 | 15 | 7 | | 161 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 2,470 ^a | 3 | ,481 |
| Likelihood Ratio | 2,841 | 3 | ,417 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is ,41.

Turma * Banco de Dados
Count

| | | Banco de Dados | | | |
|-------|-----------------------------|----------------|----|---|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 11 | 18 | 6 | 1 36 |
| | Subsequente - 2010 - 2º Sem | 14 | 6 | 2 | 3 25 |
| Total | | 25 | 24 | 8 | 4 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|--------------------|----|----------------------|
| Pearson Chi-Square | 7,624 ^a | 3 | ,054 |
| Likelihood Ratio | 7,785 | 3 | ,051 |
| N of Valid Cases | 61 | | |

a. 4 cells (50,0%) have expected count less than 5. The minimum expected count is 1,64.

Turma * Macro Access Excel

Crosstab

| Count | | Macro Access Excel | | | |
|-------|-----------------------------|--------------------|----|----|---------|
| | | 1 | 2 | 3 | 4 Total |
| Turma | Integrado - 2010 | 11 | 7 | 7 | 11 36 |
| | Subsequente - 2010 - 2º Sem | 9 | 5 | 6 | 5 25 |
| Total | | 20 | 12 | 13 | 16 61 |

Chi-Square Tests

| | Value | DF | Asymp. Sig. (2sided) |
|--------------------|-------------------|----|----------------------|
| Pearson Chi-Square | ,906 ^a | 3 | ,824 |
| Likelihood Ratio | ,924 | 3 | ,820 |
| N of Valid Cases | 61 | | |

a. 1 cells (12,5%) have expected count less than 5. The minimum expected count is 4,92.