```
'C:/Users/User/Documents/Python Scripts/Emotions/Resumo.py'
In [5]:
    ='C:/Users/User/Documents/Python Scripts/Emotions
        validation 0-merror:0.447368
Will train until validation_0-merror hasn't improved in 5 rounds.
        validation_0-merror:0.342105
[1]
[2]
        validation_0-merror:0.368421
[3]
        validation_0-merror:0.447368
[4]
        validation_0-merror:0.368421
[5]
        validation_0-merror:0.473684
[6]
        validation_0-merror:0.5
Stopping. Best iteration:
        validation 0-merror:0.342105
[0]
        validation 0-merror:0.210526
Will train until validation 0-merror hasn't improved in 5 rounds.
        validation_0-merror:0.184211
[1]
[2]
        validation_0-merror:0.263158
[3]
        validation_0-merror:0.210526
[4]
        validation_0-merror:0.236842
        validation_0-merror:0.236842
validation_0-merror:0.236842
[5]
[6]
Stopping. Best iteration:
[1]
        validation_0-merror:0.184211
        validation_0-merror:0.421053
Will train until validation_0-merror hasn't improved in 5 rounds.
        validation_0-merror:0.342105
[1]
[2]
        validation_0-merror:0.368421
[3]
        validation_0-merror:0.342105
[4]
        validation_0-merror:0.342105
[5]
        validation_0-merror:0.342105
[6]
        validation 0-merror:0.342105
Stopping. Best iteration:
[1]
        validation 0-merror:0.342105
[0]
        validation 0-merror:0.289474
Will train until validation 0-merror hasn't improved in 5 rounds.
        validation 0-merror:0.263158
[1]
        validation_0-merror:0.263158
[2]
        validation_0-merror:0.263158
[3]
[4]
        validation_0-merror:0.263158
[5]
        validation_0-merror:0.263158
        validation_0-merror:0.263158
Stopping. Best iteration:
        validation 0-merror:0.263158
[1]
        validation 0-merror:0.315789
[0]
Will train until validation 0-merror hasn't improved in 5 rounds.
        validation 0-merror:0.473684
[1]
[2]
        validation 0-merror:0.394737
[3]
        validation 0-merror:0.394737
[4]
        validation 0-merror:0.394737
[5]
        validation 0-merror:0.394737
Stopping. Best iteration:
[0]
        validation 0-merror:0.315789
        validation 0-merror:0.368421
[0]
Will train until validation 0-merror hasn't improved in 5 rounds.
[1]
        validation 0-merror:0.394737
[2]
        validation 0-merror:0.421053
[3]
        validation 0-merror:0.368421
```

```
[4]
        validation_0-merror:0.368421
[5]
        validation_0-merror:0.368421
Stopping. Best iteration:
        validation_0-merror:0.368421
        validation_0-merror:0.5
[0]
Will train until validation_0-merror hasn't improved in 5 rounds.
        validation_0-merror:0.552632
[2]
        validation_0-merror:0.526316
[3]
        validation_0-merror:0.5
[4]
        validation_0-merror:0.5
[5]
        validation_0-merror:0.526316
Stopping. Best iteration:
        validation 0-merror:0.5
[0]
        validation 0-merror:0.368421
Will train until validation 0-merror hasn't improved in 5 rounds.
        validation_0-merror:0.342105
[1]
[2]
        validation_0-merror:0.342105
[31
        validation_0-merror:0.368421
[4]
        validation_0-merror:0.342105
        validation_0-merror:0.368421
validation_0-merror:0.368421
[5]
[6]
Stopping. Best iteration:
[1]
        validation_0-merror:0.342105
        validation_0-merror:0.342105
Will train until validation_0-merror hasn't improved in 5 rounds.
[1]
        validation 0-merror:0.315789
        validation_0-merror:0.315789
[2]
[3]
        validation_0-merror:0.315789
[4]
        validation_0-merror:0.289474
[5]
        validation_0-merror:0.315789
[6]
        validation_0-merror:0.342105
[7]
        validation_0-merror:0.342105
[8]
        validation_0-merror:0.342105
        validation 0-merror:0.342105
[9]
Stopping. Best iteration:
        validation 0-merror:0.289474
[4]
        validation 0-merror:0.289474
Will train until validation 0-merror hasn't improved in 5 rounds.
[1]
        validation 0-merror:0.368421
[2]
        validation_0-merror:0.289474
[3]
        validation_0-merror:0.342105
[4]
        validation 0-merror: 0.342105
[5]
        validation 0-merror: 0.315789
Stopping. Best iteration:
        validation 0-merror:0.289474
best score: 0.289474, best iteration: 0, best ntree limit 1
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as_matrix will be removed in a future version. Use .values instead.
  y testm=y test.as matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
  y testm=y test.as matrix()
[[12 \ 1 \ 6]
 [ 5
     0 1]
 [ 4
     1 8]]
```

Scores: [1.12390297]

```
Mean: 1.124
Std: 0.000
[[17 0 0]
[ 3 2 2]
[ 1 0 13]]
Scores: [1.12390297 0.48666426]
Mean: 0.805
Std: 0.319
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
 y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
 y_testm=y_test.as_matrix()
[[10 2 3]
[ 5 0 4]
[ 2 1 11]]
Scores: [1.12390297 0.48666426 0.91766294]
Mean: 0.843
Std: 0.265
[[18 1 1]
[4 1 1]
 [ 1 1 10]]
Scores: [1.12390297 0.48666426 0.91766294 0.62828086]
Mean: 0.789
Std: 0.248
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
 y_testm=y_test.as_matrix()
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
 y_testm=y_test.as_matrix()
[[1\overline{3} \quad 0 \quad 1]
[6 0 5]
[ 2 1 10]]
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941]
Mean: 0.790
Std: 0.222
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
  y testm=y test.as matrix()
[[1\overline{6} \ 1 \ 1]]
[ 4 0 3]
 [4 0 911
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941 0.85839508]
Mean: 0.802
Std: 0.204
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
 y testm=y test.as matrix()
[[15 \ 1 \ 4]]
 [4 0 2]
 [5 0 7]]
```

```
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941 0.85839508
 1.063757
Mean: 0.839
Std: 0.210
[[16 0 3]
[ 4 1 2]
[ 3 1 8]]
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941 0.85839508
 1.063757
             0.90321065]
Mean: 0.847
Std: 0.198
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()
[[17 0 3]
[ 5 1 0]
[ 2 2 8]]
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941 0.85839508
 1.063757
             0.90321065 0.842927231
Mean: 0.847
Std: 0.186
C:\Users\User\Documents\Python Scripts\Emotions\Resumo.py:133: FutureWarning:
Method .as matrix will be removed in a future version. Use .values instead.
  y_testm=y_test.as_matrix()

  \begin{bmatrix}
    12 & 3 & 4
  \end{bmatrix}
  \begin{bmatrix}
    2 & 1 & 3
  \end{bmatrix}

 [ 3 0 10]]
Scores: [1.12390297 0.48666426 0.91766294 0.62828086 0.79471941 0.85839508
 1.063757
             0.90321065 0.84292723 0.97332853]
Mean: 0.859
Std: 0.181
Acertos em hipótese simples:246/380 - 64.74%
Acertos em hipótese simples:327/380 - 86.05%
```

In [6]: