```
0.1410, 0.0357, -0.0410, -0.1831, 0.1018, -0.1111, -0.0681,
0.1336,
        -0.0208,
                  0.2748, 0.0086, -0.0383, -0.1625, 0.0084],
        [ 0.0866,
                  0.1068, -0.0308, -0.0681, 0.1640, -0.0909, -0.2316,
-0.0728,
         0.1211,
                  0.0211, -0.0501, -0.2051, 0.1293, -0.1141, -0.0703,
0.1222,
        -0.0138, 0.2506, 0.0359, 0.0079, -0.1613, 0.0282],
        [ 0.0944, 0.1024, -0.0240, -0.0745, 0.1681, -0.0889, -0.2359,
-0.0972,
         0.1301, 0.0137, -0.0619, -0.2180, 0.1240, -0.1129, -0.0585,
0.1163,
        -0.0053, 0.2523, 0.0359, 0.0039, -0.1662, 0.0152],
        [0.0957, 0.1061, -0.0302, -0.0677, 0.1682, -0.0892, -0.2377,
-0.0830,
         0.1339, 0.0118, -0.0612, -0.2182, 0.1205, -0.1119, -0.0618,
0.1165,
                  0.2522, 0.0353, 0.0032, -0.1634, 0.0152],
        -0.0094,
       [0.0962, 0.1077, -0.0277, -0.0702, 0.1667, -0.0896, -0.2398,
-0.0864,
         0.1381, 0.0135, -0.0589, -0.2193, 0.1284, -0.1144, -0.0647,
0.1213,
        -0.0087, 0.2527, 0.0359, 0.0013, -0.1679, 0.0149],
        [0.0962, 0.1076, -0.0284, -0.0691, 0.1683, -0.0901, -0.2421,
-0.0852,
         0.1391, 0.0134, -0.0606, -0.2201, 0.1290, -0.1156, -0.0652,
0.1207,
        -0.0083, 0.2544, 0.0339, 0.0024, -0.1684, 0.0150],
        [0.0959, 0.1083, -0.0284, -0.0690, 0.1693, -0.0906, -0.2420,
-0.0859,
         0.1390, 0.0131, -0.0610, -0.2207, 0.1296, -0.1151, -0.0645,
0.1200,
        -0.0081, 0.2535, 0.0353, 0.0023, -0.1678, 0.0159]),
'Counter/IL/word/<word label>/functionalsensor-3': {tensor([[-0.0330,
-0.1017, -0.0853, -0.2040, 0.1323, 0.0571, -0.1512, -0.1865,
         0.0438, -0.0005, -0.3035, 0.0114, 0.1410, -0.2088, -0.0760,
0.0093,
        -0.1373, 0.3782, 0.1570, 0.2718, 0.1202, -0.0427],
        [0.0398, 0.1071, 0.1367, -0.1082, 0.2354, 0.0387, -0.2037,
-0.1167,
         0.0201, 0.0304, -0.1431, -0.0775, 0.1741, -0.1713, -0.1454,
0.2165,
         0.0137, 0.1966, 0.1273, -0.0353, -0.2151, 0.0245],
        [0.1260, 0.1279, -0.1509, -0.0590, 0.1322, -0.1539, -0.0281,
0.1505,
         0.0720, -0.1117, -0.1268, -0.2537, -0.0476, -0.0490, 0.0795,
```

```
0.1135,
        -0.1690, 0.1659, 0.1581, -0.0601, 0.0398, 0.0598],
        [0.0363, 0.0926, -0.1020, -0.0125, 0.1672, -0.1270, -0.1342,
-0.0030,
         0.0247, -0.0484, -0.0132, -0.2415, 0.1597, -0.0696, 0.0690,
0.1225,
         0.0286, 0.2311, 0.0213, 0.0380, -0.0938, 0.0112],
       [0.0678, 0.1251, -0.0151, -0.0747, 0.1488, -0.0836, -0.1980,
-0.0880,
         0.1216, 0.0725, -0.0785, -0.2462, 0.1294, -0.1599, -0.0971,
0.1331,
        -0.0242, 0.2561, 0.0222, -0.0434, -0.1661, -0.0236],
       [0.0972, 0.0971, -0.0220, -0.0603, 0.1549, -0.0936, -0.2529,
-0.0748,
         0.1410, 0.0357, -0.0410, -0.1831, 0.1018, -0.1111, -0.0681,
0.1336,
        -0.0208, 0.2748, 0.0086, -0.0383, -0.1625, 0.0084]]):
{'counter': 1, 'recent': True}},
FunctionalSensor(name='functionalsensor-3', fullname='IL/word/
<word label>/functionalsensor-3'): tensor([[-0.0330, -0.1017, -0.0853,
-0.2040,
         0.1323, 0.0571, -0.1512, -0.1865,
         0.0438, -0.0005, -0.3035, 0.0114, 0.1410, -0.2088, -0.0760,
0.0093,
        -0.1373, 0.3782, 0.1570, 0.2718, 0.1202, -0.0427],
       [0.0398, 0.1071, 0.1367, -0.1082, 0.2354, 0.0387, -0.2037,
-0.1167,
         0.0201, 0.0304, -0.1431, -0.0775, 0.1741, -0.1713, -0.1454,
0.2165,
         0.0137, 0.1966, 0.1273, -0.0353, -0.2151, 0.0245],
        [0.1260, 0.1279, -0.1509, -0.0590, 0.1322, -0.1539, -0.0281,
0.1505,
         0.0720, -0.1117, -0.1268, -0.2537, -0.0476, -0.0490, 0.0795,
0.1135,
        -0.1690, 0.1659, 0.1581, -0.0601, 0.0398, 0.0598],
        [0.0363, 0.0926, -0.1020, -0.0125, 0.1672, -0.1270, -0.1342,
-0.0030,
         0.0247, -0.0484, -0.0132, -0.2415, 0.1597, -0.0696, 0.0690,
0.1225,
         0.0286, 0.2311, 0.0213, 0.0380, -0.0938, 0.0112],
        [0.0678, 0.1251, -0.0151, -0.0747, 0.1488, -0.0836, -0.1980,
-0.0880,
         0.1216, 0.0725, -0.0785, -0.2462, 0.1294, -0.1599, -0.0971,
0.1331,
        -0.0242, 0.2561, 0.0222, -0.0434, -0.1661, -0.0236],
        [0.0972, 0.0971, -0.0220, -0.0603, 0.1549, -0.0936, -0.2529,
-0.0748,
```

```
0.1410, 0.0357, -0.0410, -0.1831, 0.1018, -0.1111, -0.0681,
0.1336,
         -0.0208, 0.2748, 0.0086, -0.0383, -0.1625, 0.0084]]),
'CounterGetDataNode': 2}
Learner sentence: the of below the of of of
Situation: ['re1(t1)', 'tr1(t1)', 'le2(t2,t1)', 'sm1(t2)', 'or1(t2)',
'ci1(t2)']
['triangle', 'small', 'ellipse', 'the', 'below', 'star', 'medium',
'big', 'above', 'hexagon', 'right', 'square', 'orange', 'red', 'left',
'circle', 'yellow', 'of', 'green', 'blue', 'to', 'purple']
Output Labels: tensor([ 6, 18, 11, 8, 7, 18, 9])
Prediction size (before): 12
Expected size (before): 7
Model output is larger than expected!
{'situation': [['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)',
'bi1(t2)', 'gr1(t2)', 'he1(t2)']], 'utterance': [['medium', 'green',
'square', 'above', 'big', 'green', 'hexagon']], 'graph':
Graph(name='IL', fullname='IL'), 'READER': 0, 'Counter_setitem': 20,
'Counter/IL/utterance/tokenized text situation/readersensor':
{(('me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)', 'bi1(t2)', 'gr1(t2)',
'he1(t2)'),): {'counter': 1, 'recent': True}}, 'dataNode': [utterance
0], 'IL/utterance/index': [utterance 0],
ReaderSensor(name='readersensor', fullname='IL/utterance/
tokenized_text_situation/readersensor'): [['me1(t1)', 'gr1(t1)',
'sq1(t1)', 'ab2(t1,t2)', 'bi1(t2)', 'gr1(t2)', 'he1(t2)']],
'DataNodeTime': 0.011994361877441406,
Property(name='tokenized_text_situation', fullname='IL/utterance/
tokenized_text_situation'): [['me1(t1)', 'gr1(t1)', 'sq1(t1)',
'ab2(t1,t2)', 'bi1(t2)', 'gr1(t2)', 'he1(t2)']], 'Counter/IL/utterance/
tokenized_text_utterance/readersensor-1': {(('medium', 'green',
'square', 'above', 'big', 'green', 'hexagon'),): {'counter': 1,
'recent': True}}, ReaderSensor(name='readersensor-1', fullname='IL/
utterance/tokenized text utterance/readersensor-1'): [['medium',
'green', 'square', 'above', 'big', 'green', 'hexagon']],
Property(name='tokenized_text_utterance', fullname='IL/utterance/
tokenized_text_utterance'): [['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']], JointSensor(name='jointsensor',
fullname='IL/word/(Contains(name='utterance-contains-1-word',
fullname='IL/utterance-contains-1-word'), 'situation token',
'utterance token')/jointsensor'): (tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
```

```
[1.]]), ['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)',
'bi1(t2)', 'gr1(t2)', 'he1(t2)'], ['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']), Property(name='(Contains(name='utterance-
contains-1-word', fullname='IL/utterance-contains-1-word'),
'situation_token', 'utterance_token')', fullname='IL/word/
(Contains(name='utterance-contains-1-word', fullname='IL/utterance-
contains-1-word'), 'situation token', 'utterance token')'):
(tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]), ['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)',
'bi1(t2)', 'gr1(t2)', 'he1(t2)'], ['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']), 'Counter/IL/word/utterance-contains-1-word/
edgesensor': {tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]): {'counter': 1, 'recent': True}}, 'IL/word/index': [word
0, word 1, word 2, word 3, word 4, word 5, word 6],
EdgeSensor(name='edgesensor', fullname='IL/word/utterance-contains-1-
word/edgesensor'): tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]), Property(name='utterance-contains-1-word', fullname='IL/
word/utterance-contains-1-word'): tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]), 'Counter/IL/word/utterance token/functionalsensor-1':
{('medium', 'green', 'square', 'above', 'big', 'green', 'hexagon'):
{'counter': 1, 'recent': True}},
FunctionalSensor(name='functionalsensor-1', fullname='IL/word/
utterance token/functionalsensor-1'): ['medium', 'green', 'square',
'above', 'big', 'green', 'hexagon'], Property(name='utterance token',
fullname='IL/word/utterance_token'): ['medium', 'green', 'square',
'above', 'big', 'green', 'hexagon'], 'Counter/IL/word/<word label>/
```

```
functionalsensor-2': {tensor([ 6, 18, 11, 8, 7, 18, 9]): {'counter':
1, 'recent': True}}, FunctionalSensor(name='functionalsensor-2',
fullname='IL/word/<word label>/functionalsensor-2'): tensor([ 6, 18, 11,
8, 7, 18, 9]), Property(name='word label', fullname='IL/word/
<word_label>'): tensor([[ 0.1550,  0.2046, -0.0037, -0.0100,  0.0232,
0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
       [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044
        [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
       [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
        [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
         0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]),
'Counter/IL/utterance/situation vectorized/situationrepsensor':
{tensor([[ 9],
       [19],
       [24],
       [14],
        [7],
        [11],
```

```
[13]]): {'counter': 1, 'recent': True}},
SituationRepSensor(name='situationrepsensor', fullname='IL/utterance/
situation vectorized/situationrepsensor'): tensor([[ 9],
        [19],
        [24],
        [14],
        [7],
        [11],
        [13]]), Property(name='situation vectorized', fullname='IL/
utterance/situation vectorized'): tensor([[ 9],
        [19],
        [24],
        [14],
        [7],
        [11],
        [13]]), 'Counter/IL/word/word probabilities/modulelearner':
{tensor([[ 0.1550, 0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054,
-0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
        [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
```

```
[0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
         0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378],
        [ 0.0878,
                  0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
-0.1022,
         0.0950, 0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
0.1195,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
         0.0128,
        [ 0.0876,
                  0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
-0.1000,
         0.0953, 0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
0.1187,
                  0.2690, 0.0401, 0.0440, -0.1837, -0.0320],
         0.0162,
        [0.0876, 0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
-0.1016,
         0.0963, 0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
0.1179,
         0.0165, 0.2698, 0.0386, 0.0429, -0.1818, -0.0324],
        [0.0889, 0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
-0.1029,
         0.0966, 0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
0.1180,
         0.0168, 0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
        [0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]]):
{'counter': 1, 'recent': True}}, ModuleLearner(name='modulelearner',
fullname='IL/word/word_probabilities/modulelearner'): tensor([[ 0.1550,
0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
```

```
[0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139,
                  0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
                  0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
         -0.0162,
                  0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
        [ 0.0977,
-0.1028,
                  0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
         0.1086,
0.1224,
                  0.2783, 0.0285, 0.0249, -0.1966, -0.0268],
         0.0120,
                  0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
        [ 0.0910,
-0.1159,
                  0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
         0.0760,
0.1219,
                  0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
         0.0160,
        [ 0.0896,
                  0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
                  0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
         0.0885,
0.1175,
                  0.2685, 0.0379, 0.0423, -0.1814, -0.0378],
         0.0108,
                  0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
        [ 0.0878,
-0.1022,
                  0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
         0.0950,
0.1195,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
         0.0128,
        [ 0.0876,
                  0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
-0.1000,
                  0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
         0.0953.
0.1187,
                  0.2690, 0.0401, 0.0440, -0.1837, -0.0320],
         0.0162,
        [ 0.0876,
                  0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
-0.1016,
                  0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
         0.0963,
0.1179,
                          0.0386, 0.0429, -0.1818, -0.0324],
         0.0165,
                  0.2698,
                  0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
        [ 0.0889,
-0.1029,
                  0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
         0.0966,
0.1180,
                  0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
         0.0168,
        [0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]]),
Property(name='word probabilities', fullname='IL/word/
```

```
word probabilities'): tensor([[ 0.1550, 0.2046, -0.0037, -0.0100,
        0.0173, -0.2054, -0.0598,
0.0232,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076.
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
                  0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
        [-0.0836,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
                  0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
         0.0590,
        [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
                  0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
         0.1086,
0.1224,
                  0.2783, 0.0285, 0.0249, -0.1966, -0.0268],
         0.0120,
        [ 0.0910,
                  0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
                  0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
         0.0760,
0.1219,
                  0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
         0.0160,
        [ 0.0896,
                  0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
                  0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
         0.0885,
0.1175,
                          0.0379, 0.0423, -0.1814, -0.0378],
         0.0108,
                  0.2685,
                  0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
        [ 0.0878,
-0.1022,
                  0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
         0.0950.
0.1195,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
         0.0128,
        [0.0876, 0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
-0.1000,
         0.0953, 0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
0.1187,
         0.0162, 0.2690, 0.0401, 0.0440, -0.1837, -0.0320],
        [0.0876, 0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
```

```
-0.1016,
         0.0963, 0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
0.1179,
                 0.2698, 0.0386, 0.0429, -0.1818, -0.0324],
         0.0165,
       [0.0889, 0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
-0.1029,
                  0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
         0.0966,
0.1180,
         0.0168,
                  0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
        [ 0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]),
'Counter/IL/word/<word_label>/functionalsensor-3': {tensor([[ 0.1550,
0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
       [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
        [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
        [ 0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
```

```
0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
                    0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]):
{'counter': 1, 'recent': True}},
FunctionalSensor(name='functionalsensor-3', fullname='IL/word/
<word label>/functionalsensor-3'): tensor([[ 0.1550,  0.2046, -0.0037,
                    0.0232, 0.0173, -0.2054, -0.0598,
                    0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
                  -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
                [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
                    0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
                    0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
                [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
                    0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
                    0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
                [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
                    0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
                  -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
                [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
                    0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
                    0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
                [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
                    0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
                    0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
                [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
                    0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
                    0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]
'CounterGetDataNode': 1}
True
{\text{'situation': [['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)', 'sq1(t1)', 'ab2(t1,t2)', 'gr1(t1)', 'gr1(t1
'bi1(t2)', 'gr1(t2)', 'he1(t2)']], 'utterance': [['medium', 'green',
'square', 'above', 'big', 'green', 'hexagon']], 'graph':
Graph(name='IL', fullname='IL'), 'READER': 0, 'Counter_setitem': 20,
```

```
'Counter/IL/utterance/tokenized_text_situation/readersensor':
{(("me1(t1)", "gr1(t1)", "sq1(t1)", "ab2(t1,t2)", "bi1(t2)", "gr1(t2)", "gr
'he1(t2)'),): {'counter': 1, 'recent': True}}, 'dataNode': [utterance
0], 'IL/utterance/index': [utterance 0],
ReaderSensor(name='readersensor', fullname='IL/utterance/
tokenized text situation/readersensor'): [['me1(t1)', 'gr1(t1)',
'sq1(t1)', 'ab2(t1,t2)', 'bi1(t2)', 'gr1(t2)', 'he1(t2)']],
'DataNodeTime': 0.011994361877441406,
Property(name='tokenized_text_situation', fullname='IL/utterance/
tokenized_text_situation'): [['me1(t1)', 'gr1(t1)', 'sq1(t1)',
'ab2(t1,t2)', 'bi1(t2)', 'gr1(t2)', 'he1(t2)']], 'Counter/IL/utterance/
tokenized_text_utterance/readersensor-1': {(('medium', 'green',
'square', 'above', 'big', 'green', 'hexagon'),): {'counter': 1,
'recent': True}}, ReaderSensor(name='readersensor-1', fullname='IL/
utterance/tokenized_text_utterance/readersensor-1'): [['medium',
'green', 'square', 'above', 'big', 'green', 'hexagon']],
Property(name='tokenized text utterance', fullname='IL/utterance/
tokenized_text_utterance'): [['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']], JointSensor(name='jointsensor',
fullname='IL/word/(Contains(name='utterance-contains-1-word',
fullname='IL/utterance-contains-1-word'), 'situation token',
'utterance token')/jointsensor'): (tensor([[1.],
               [1.],
               [1.],
               [1.],
               [1.],
               [1.],
               [1.]]), ['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)',
'bi1(t2)', 'gr1(t2)', 'he1(t2)'], ['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']), Property(name='(Contains(name='utterance-
contains-1-word', fullname='IL/utterance-contains-1-word'),
'situation_token', 'utterance_token')', fullname='IL/word/
(Contains(name='utterance-contains-1-word', fullname='IL/utterance-
contains-1-word'), 'situation token', 'utterance token')'):
(tensor([[1.],
               [1.],
               [1.],
               [1.],
               [1.],
               [1.]]), ['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)',
'bi1(t2)', 'gr1(t2)', 'he1(t2)'], ['medium', 'green', 'square', 'above',
'big', 'green', 'hexagon']), 'Counter/IL/word/utterance-contains-1-word/
edgesensor': {tensor([[1.],
               [1.],
               [1.],
```

```
[1.],
        [1.],
        [1.],
        [1.]]): {'counter': 1, 'recent': True}}, 'IL/word/index': [word
0, word 1, word 2, word 3, word 4, word 5, word 6],
EdgeSensor(name='edgesensor', fullname='IL/word/utterance-contains-1-
word/edgesensor'): tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]), Property(name='utterance-contains-1-word', fullname='IL/
word/utterance-contains-1-word'): tensor([[1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.],
        [1.]]), 'Counter/IL/word/utterance token/functionalsensor-1':
{('medium', 'green', 'square', 'above', 'big', 'green', 'hexagon'):
{'counter': 1, 'recent': True}},
FunctionalSensor(name='functionalsensor-1', fullname='IL/word/
utterance token/functionalsensor-1'): ['medium', 'green', 'square',
'above', 'big', 'green', 'hexagon'], Property(name='utterance_token',
fullname='IL/word/utterance_token'): ['medium', 'green', 'square',
'above', 'big', 'green', 'hexagon'], 'Counter/IL/word/<word_label>/
functionalsensor-2': {tensor([ 6, 18, 11, 8, 7, 18, 9]): {'counter':
1, 'recent': True}}, FunctionalSensor(name='functionalsensor-2',
fullname='IL/word/<word label>/functionalsensor-2'): tensor([ 6, 18, 11,
8, 7, 18, 9]), Property(name='word_label', fullname='IL/word/
<word_label>'): tensor([[ 0.1550,  0.2046, -0.0037, -0.0100,  0.0232,
0.0173, -0.2054, -0.0598,
          0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
         -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
          0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
          0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
          0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
          0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
```

```
[0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
        [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
         0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]
'Counter/IL/utterance/situation vectorized/situationrepsensor':
{tensor([[ 9],
        [19],
        [24],
        [14],
        [7],
        [11],
        [13]]): {'counter': 1, 'recent': True}},
SituationRepSensor(name='situationrepsensor', fullname='IL/utterance/
situation vectorized/situationrepsensor'): tensor([[ 9],
        [19],
        [24],
       [14],
        [7],
        [11],
        [13]]), Property(name='situation vectorized', fullname='IL/
utterance/situation vectorized'): tensor([[ 9],
        [19],
        [24],
        [14],
        [7],
        [11],
        [13]]), 'Counter/IL/word/word probabilities/modulelearner':
{tensor([[ 0.1550, 0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054,
-0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
```

```
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
       [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
                  0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
         0.0590,
       [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
                 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
       [ 0.0896,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
                  0.2685, 0.0379, 0.0423, -0.1814, -0.0378],
         0.0108,
        [0.0878, 0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
-0.1022,
                  0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
         0.0950.
0.1195,
         0.0128,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
        [0.0876, 0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
-0.1000,
         0.0953, 0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
0.1187,
         0.0162, 0.2690, 0.0401, 0.0440, -0.1837, -0.0320],
        [0.0876, 0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
-0.1016,
         0.0963, 0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
0.1179,
```

```
0.0165, 0.2698, 0.0386, 0.0429, -0.1818, -0.0324],
       [0.0889, 0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
-0.1029,
         0.0966, 0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
0.1180,
                  0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
         0.0168,
        [0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]]):
{'counter': 1, 'recent': True}}, ModuleLearner(name='modulelearner',
fullname='IL/word/word_probabilities/modulelearner'): tensor([[ 0.1550,
0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
       [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
       [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
        -0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
        [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
```

```
0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378],
       [0.0878, 0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
-0.1022,
                  0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
         0.0950,
0.1195,
         0.0128,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
        [0.0876, 0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
-0.1000,
         0.0953, 0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
0.1187,
         0.0162, 0.2690, 0.0401, 0.0440, -0.1837, -0.0320
        [0.0876, 0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
-0.1016,
         0.0963, 0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
0.1179,
         0.0165, 0.2698, 0.0386, 0.0429, -0.1818, -0.0324],
        [0.0889, 0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
-0.1029,
         0.0966, 0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
0.1180,
                  0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
         0.0168,
       [0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]),
Property(name='word probabilities', fullname='IL/word/
word_probabilities'): tensor([[ 0.1550, 0.2046, -0.0037, -0.0100,
0.0232,
       0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
        [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
```

```
-0.0162, 0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
                  0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
         0.1086,
0.1224,
                  0.2783, 0.0285, 0.0249, -0.1966, -0.0268],
         0.0120,
        [ 0.0910,
                  0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
                  0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
         0.0760,
0.1219,
                  0.2632, 0.0361, 0.0426, -0.1829, -0.0347],
         0.0160,
                  0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
        [ 0.0896,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
                  0.2685, 0.0379, 0.0423, -0.1814, -0.0378],
         0.0108,
                  0.0448, -0.0563, -0.0972, 0.1672, -0.1383, -0.2175,
        [ 0.0878,
-0.1022,
                  0.0659, -0.0760, -0.2163, 0.0879, -0.1009, -0.0687,
         0.0950,
0.1195,
         0.0128,
                  0.2707, 0.0402, 0.0415, -0.1867, -0.0353],
                  0.0446, -0.0558, -0.0937, 0.1685, -0.1379, -0.2195,
       [ 0.0876,
-0.1000,
         0.0953, 0.0691, -0.0783, -0.2139, 0.0900, -0.1018, -0.0707,
0.1187,
                  0.2690, 0.0401, 0.0440, -0.1837, -0.0320],
         0.0162,
        [0.0876, 0.0456, -0.0564, -0.0933, 0.1698, -0.1389, -0.2214,
-0.1016,
         0.0963, 0.0678, -0.0796, -0.2154, 0.0889, -0.1026, -0.0716,
0.1179,
         0.0165, 0.2698, 0.0386, 0.0429, -0.1818, -0.0324],
        [0.0889, 0.0454, -0.0559, -0.0940, 0.1698, -0.1390, -0.2214,
-0.1029,
         0.0966, 0.0678, -0.0800, -0.2164, 0.0887, -0.1028, -0.0715,
0.1180,
         0.0168, 0.2699, 0.0380, 0.0423, -0.1820, -0.0335],
        [0.0887, 0.0455, -0.0557, -0.0947, 0.1699, -0.1387, -0.2216,
-0.1033,
         0.0965, 0.0681, -0.0792, -0.2165, 0.0892, -0.1025, -0.0714,
0.1186,
         0.0163, 0.2700, 0.0382, 0.0423, -0.1828, -0.0335]),
'Counter/IL/word/<word_label>/functionalsensor-3': {tensor([[ 0.1550,
0.2046, -0.0037, -0.0100, 0.0232, 0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
```

```
[-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
         0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
       [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
                  0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        -0.0162,
       [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
        [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
         0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]):
{'counter': 1, 'recent': True}},
FunctionalSensor(name='functionalsensor-3', fullname='IL/word/
<word_label>/functionalsensor-3'): tensor([[ 0.1550,  0.2046, -0.0037,
-0.0100,
         0.0232, 0.0173, -0.2054, -0.0598,
         0.1379, -0.1662, -0.1223, 0.0138, 0.1541, -0.0249, 0.0076,
0.1754,
        -0.1031, 0.3440, 0.2142, -0.0626, -0.0043, 0.0458],
        [-0.0836, 0.0259, 0.0243, -0.1443, 0.1581, 0.0355, -0.2333,
-0.2297,
         0.0916, 0.0010, -0.0520, -0.0613, 0.2520, -0.1246, -0.0203,
0.1143,
         0.2871, 0.3013, 0.0417, 0.1178, -0.1829, -0.0889],
        [0.0202, -0.0011, -0.1927, -0.0227, 0.1886, -0.1815, -0.2122,
0.0066,
         0.0789, 0.0966, -0.0454, -0.2129, 0.0602, -0.0982, -0.1756,
0.1116,
```

```
0.0590, 0.2324, 0.0512, 0.0919, -0.0840, 0.0044],
       [0.0782, 0.0255, -0.0815, -0.0946, 0.1268, -0.1816, -0.2347,
-0.0844,
         0.1139, 0.0731, -0.0798, -0.2066, 0.0989, -0.1279, -0.1145,
0.1338,
                  0.2458, 0.0789, 0.0221, -0.1569, 0.0206],
        -0.0162,
        [0.0977, 0.0404, -0.0516, -0.0974, 0.1710, -0.1477, -0.2525,
-0.1028,
         0.1086, 0.0886, -0.1032, -0.1942, 0.0790, -0.1244, -0.0898,
0.1224,
         0.0120, 0.2783, 0.0285, 0.0249, -0.1966, -0.0268
        [0.0910, 0.0409, -0.0542, -0.0946, 0.1845, -0.1374, -0.2145,
-0.1159,
         0.0760, 0.0732, -0.0789, -0.2234, 0.0829, -0.0940, -0.0637,
0.1219,
         0.0160, 0.2632, 0.0361, 0.0426, -0.1829, -0.0347
        [0.0896, 0.0425, -0.0531, -0.1020, 0.1719, -0.1364, -0.2170,
-0.1120,
         0.0885, 0.0594, -0.0742, -0.2232, 0.0841, -0.0953, -0.0637,
0.1175,
         0.0108, 0.2685, 0.0379, 0.0423, -0.1814, -0.0378]),
'CounterGetDataNode': 2}
True
Learner sentence: the of of of of of of
Situation: ['me1(t1)', 'gr1(t1)', 'sq1(t1)', 'ab2(t1,t2)', 'bi1(t2)',
'gr1(t2)', 'he1(t2)']
Word Accuracy per interval: [0.0]
Sentence Accuracy per interval: [0.0]
Procedure elapsed time: 00:00:00 hh:mm:ss
Removing all facts and rules from the prolog interpreter!
```

In [2]: