Language Course Coordination – MAS Scenario

**1) Grouping Constraints**

2 types of constraints to formulate groups – ***Individual*** and ***Global*** constraints:

**a) Individual constraints:**

i) **Permanent** Individual Constraints:

**-** mixed/same-gender group

**-** mixed/same-nationality group

ii) **Temporary** Individual Constraints:

**-** Attendance for the class

In my opinion, TCNs will have the ability to change their Permanent individual constraints even though it is called Permanent. But the frequency of changing Permanent constraints will be much less than Temporary ones.

**b) Global constraints**

**- Reading and Role Playing** activities **–** 2 people with similar language levels

- **Big Role playing activities** – max. 5 people and at least 1 with high speaking skill level

- A group **shouldn’t contain multiple** people who missed previous lesson

Not provided by teacher yet:

- Since 1st and 2nd global constraints are in conflict, agents will probably provide 2 different set of groups. First for Reading and Role Playing activities and second for Big Role playing activities. Or if we have a centralized system(teacher agent would be the center), then teacher can select which type of groups she/he wants.

- **Minimum number of people in a group**: most likely 2

- **How close language level**: For example, on a scale from 1 to 10, level 7 to level 9 can be grouped.

**2) Progress Evaluation**

Evaluation of each of the following skills separately:

**- Reading**

**- Listening**

**- Vocabulary**

**- Spelling**

**- Speaking**

The skills above are assessed via tests which are conducted at the end of each class and unit.

Agents need to know the assessment scheme. It is not provided by teacher yet. I mean when the result of a test is sent to Agent, how agent is supposed to evaluate?

For example, if TCN’s scores are 60, 70 and 80 out of 100 for last 3 different tests on Reading skill, then by using a mapping table between the scores and exercises, Agent can lookup and assign more difficult (in this case) or easier exercises to TCN for the next class.

These are my initial ideas. Maybe teachers do it in a different way. Therefore, it would be good if they could provide some examples (like the one above) so that we can formulate the initial algorithm conceptually.

Also there could be a scale(e.g. 1 to 10) for TCN levels. This table would be same for all skills. After each class, agent would update the TCN level based on the test result. Then according to this level, agent can assign exercises.

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Test scores -> TCN level -> Exercise

{60,70,50,80} **->** 6.5 on a scale from 1 to 10 -> Level to Exercises mapping table