PEER TO PEER: NUMERACY PROGRAM

TASTE OF FUSION LEARNING

JULY 2021

PARTNERSHIP BETWEEN:

FINANCED BY:

ERASMUS +
Learning Objective/s of the Numeracy program:

- Knowing the methodology of Multisensory Learning
- Understanding how Numeracy can be taught to vulnerable women through food

Target group: Social workers, teachers, educators, volunteers, project manager.

Requisite to attend the digital programme: educational skills to be increased, desire to learn knew methodology, experience in the field of education.

Duration of the digital program: 2 days – 12 hours

Maximum and minimum number of participants: 8
SUMMARY

Program

The Activities

- Name, gesture
- That’s how we learn!
- Taste the numbers
- Blinded volumes!
- Sniff the numbers!
- Touch the legumes!
- Spices and memory!
- Legumes and bingo!
- Rice and mathematical operations
- Describe a recipe
- Healthy Diet for all!
THE ACTIVITIES
NAME, GESTURE
10 MINUTES

OBJECTIVES

Speaking with gesture simulates several senses simultaneously and increases the chances of remembering the first name of all the people in the group. The expressiveness of the gestures (large and loud) allows you to relax, to express yourself in your singularity and to create a playful atmosphere.

- Form a circle.

- Do a quick first name round: the first person looks the person to the right in the eyes and says his or her first name. Then the second person looks at the person to the right and says his or her name, etc. Encourage people to speak loudly and intelligibly.

- After going around the circle, ask the first person to say his or her first name with a gesture. The group should then imitate this: people repeat the first name and the same gesture, all at the same time. Then the person on the right, etc., is passed on. Once each name has been memorised with the associated gesture, try to repeat all the names together (at the same time and in the same order) with the gestures.

- At the end, one person can dedicate him/herself to try to repeat ALL the first names of the people in the circle.

   Applaud the performance!
THAT’S HOW WE LEARN!

40 MINUTES - 8 PARTICIPANTS

OBJECTIVES

Objectives:
- Stimulate short-term memory
- Experiencing and understanding different memorizing strategies
- For the future, using teaching methods that are more adapted to the brain

Indicators:
- Understand how the brain works during the learning process
- Adapt teaching methods according to the 3 main principles to better learn

MATERIAL

- Computer, projector, and participants have 5 sheets of blank paper and colour pens.
- For the third experience, you need to print the texts annexe x and x

The following activity is composed of three short experiences that will make you dive into multisensory pedagogy and understand better how your brain selects and retains new information. For more suspense and successful experiments, follow the three experiences without introducing them before to the participant.
Experiment 1 (10 min)

Phase 1:
First, project the image 1 to the board of the class. Tell the participants to observe and memorize the image – they cannot take notes.

After 30 seconds, you remove the image and tell the participants to reproduce exactly the image and forms on the first paper sheet. Everything counts: the shapes, their order, their location, their size, etc.

After 2 minutes, the participants put down their pens and move the first sheet underneath their pile of 5 sheets. You re-display the picture and go to the next step.

Phase 2:
Project on the board the image 2. Again, tell the participants to observe and memorize the image.
After 30 seconds, you remove the image and tell the participants to reproduce exactly the image and forms on a paper sheet.
After 2 minutes, participants turn over their sheet with the drawing.
Phase 3:
Invite the participants turn their two drawings right side by side. On the board you project image 1 and 2 side by side, that everyone can compare their results of their drawing with the original images. With a pen of a different colour, the participants correct each mistake they made on their drawing: order changes, omissions or different proportion.

For instance, in black their drawing from memory and in red what they should have done.

**Image 2**
Phase 4:
Ask the participants their number of mistakes with image 1 and with image 2. Then, ask the group their observation: which of the two images was easier to remember? On which image did they make the most mistakes?

Almost every time, all the participants will have remembered more easily the second image. You can start a discussion with the group about why is that.

Phase 5:
Now it is time to explain what happened and how our brain retains information.
You can project those few points on the board:

1. The working or immediate memory has capacity limits, about 5-9 items

2. “Chunking” is a strategy to increase the capacity of the items that can be functionally held in the “immediate” memory (giving sense).

3. “Chunking” occurs when the working memory perceives incoming data as a structure, a system

4. Associated information is memorized much more easily than the dissociated information

TIPS / POSSIBLE ALTERNATIVES

By understanding this concept, trainers can deliver just the right amount of information without overwhelming their trainees’ brains.

Also, in the future trainers can either orchestrate chunking for students, or teach them how to do it. For instance, a conceptual, well-rehearsed mind map can visually chunk lots of discrete bits of information into a single visual concept for better retention.

After discussions go quickly to the second experience.
Experiment 2 (10 min)

Phase 1: Project for 30 seconds the image 3 to the board of the class. Tell the participants to observe and memorize the image – they cannot take notes.

![Image 3](image3.png)

For 1 minute, you project the image 4 and ask the participants to draw the forms corresponding to each number.

![Image 4](image4.png)

Project Image 5, and ask the participants to compare their results. You can ask how many mistakes they made.

![Image 5](image5.png)
Phase 2:
You project Image 6 for 30 seconds and ask the participants to observe and memorize the image.

```
1 = 1
2 = 2
3 = 3
4 = 4
5 = 5
6 = 6
7 = 7
8 = 8
9 = 9
```

**Image 6**

For 30 seconds you project the image 7 and ask the participants to draw the forms corresponding to each number.

```
8 1 7 9 2 5
```

**Image 7**

Finally, you project the results of image 8 and ask them to count how many mistakes they have made.

```
8 1 7 9 2 5
□ □ □ □ □
```

**Image 8**

Ask them the participants their results and compare between each other. Most of the participants will have much better results at the second memorizing phase. Now take time to have a conversation with the group: Why is it so? What was the big difference between the two images to memorize – since it is the same series of number in both?

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**TIPS / POSSIBLE ALTERNATIVES**

Contrary to the image 3, the image 6 has a visual logical trick. The organisation of the numbers is very common for us since its looks like the keypads on calculators or our cell phones. The idea is to bring your learners to the conclusion that we learn better when the new information is associated with previous knowledge.

Go quickly to the next experience.
OBJECTIVES

Learning mathematical operations through foods

MATERIAL

- Ingredients for making biscuits

- Participants have to bake biscuits related to their tradition and culture. The biscuits can be related to festivities such as Christmas, Easter, birthdays or similar.

- All participants should tell how they celebrate the holiday related to the biscuit!

- Each baked biscuit must have a number drawn on it (using icing, for example).

- Biscuits with mathematical symbols such as division, multiplication, addition, subtraction (even more difficult if the group knows them) will also be created.

- Once the biscuits have been prepared, the trainer will ask them to do some mathematical operations, each time the answer is correct they will eat the biscuit!
OBJECTIVES

- Knowing the importance of proportions

MATERIAL

- Different fluids with different volumes: water, carbonated soft drink, fruit juice, chocolate cream
- Kitchen scales
- Jar with different measuring levels

1) All participants are blindfolded.

2) The trainer gives each participant a different fluid that has to be poured into a jar placed on a scale.

3) The trainer asks each person to pour the fluid trying, without seeing, to reach a specific weight e.g.: 10g, 20g, 50g, etc.

4) The participants should, without seeing, try to pour in as much fluid as the trainer has asked for.

5) If any participant does not reach the correct number the trainer will explain how important correct measurements are in cooking and the proportions within recipes.
OBJECTIVES

Making participants aware of how the sense of smell can be a tool to help learn numbers or do mathematical operations

MATERIAL

5 jars with different spices. Each jar must have a number written on it.

Participants sit in a circle and blindfold each other. The methodology expert will have to pass between them placing a jar with a smell under their nose. The participants will have to try to recognise the smell and link it to a dish from their childhood or which they used to cook.

Once the various spices have been revealed, each spice is assigned a number or a mathematical operation. The participants will have to remember the number belonging to each spice.

The trainer will then ask questions. For example: turmeric + chilli =???

This activity is accompanied by an explanation of how memory, the sense of smell, and the calculation of mathematical operations activate different areas of the brain and promote learning.

TIPS / POSSIBLE ALTERNATIVES

Understanding the MSL methodology
TOUCH THE LEGUMES!

40 MINUTES - 8 PARTICIPANTS

OBJECTIVES
Using the sense of touch to support mathematical activities

MATERIAL

4 large jars, each filled with different legumes such as: beans, chickpeas, lentils etc.

Blindfolded participants have to put their hand into the jars and try to recognise the different vegetables.

Once they have recognised them, they have to tell a recipe with the right proportions for each ingredient.

In addition, the trainer may ask them to carry out a series of activities related to addition, subtraction, multiplication, creation of sets (legumes) and subsets (beans, chickpeas, lentils, etc.).
SPICES AND MEMORY!
1 HOUR - 8 PARTICIPANTS

OBJECTIFS

- Teamwork.
- Develop the creativity.
- Improving knowledge in mathematics

MATERIEL

Spices, jars, pens, labels

Four containers are created with four strong-smelling spices (e.g. turmeric, paprika, ginger, rosemary).

Each container is marked with a number, for example:
paprika 4
ginger 7
turmeric 10
rosemary 15

The trainer makes each participant smell the spice (without saying which spice it is).

Participants have to guess the spice and link it to a memory of a dish or/and culinary experience related to that smell.

Once all the spices have been correctly identified, the trainer proposes a series of mathematical operations using the spice containers.

For example "turmeric x ginger =.....".

The trainer can use different numbers and different combinations depending on which mathematical operations he/she wants to perform.

TIPS / POSSIBLE ALTERNATIVES

Being prepared with some mathematical operations.
Emphasise the importance of quick calculation, finding innovative ways to remember numbers quickly.
OBJECTIVES

- Developing mathematical knowledge
- Create a game to train number recognition
- Developing memory

MATERIAL

Cardboard, scissors, paints, paper, pens, legumes

The trainer selects certain types of legumes such as: beans, lentils, peas, broad beans, soya beans etc.

The participants will have to recognise all the different legumes chosen and tell a typical preparation from their town/country of origin that uses legumes as the main food.

At the end of this phase, the trainer will create folders together with the participants similar to the folders of the game BINGO!, therefore with numbers inside.

Once these folders have been created, the trainer will draw numbers. Each time the number in the folder is called, the participants will have to put a vegetable in the appropriate box.

TIPS / POSSIBLE ALTERNATIVES

Create a bag with the numbers that will then be drawn.
Prepare the folders with the numbers first, if you want to make the activity quicker.
OBJECTIVES

- Learning to count in mind using only touch
- Increasing the ability to do mathematical operations

MATERIAL

1kg of rice
1 small container for the rice

This activity is very simple but useful for learning and increasing the knowledge in mathematical operations.

The trainer gives a glass filled with rice to each participant and asks the participants to close their eyes and take only 30 grains of rice from the glass (the number may vary). This will help the participants to count without seeing the object in question but using only touch.

After that, the trainer will ask them to do some mathematical operations using only those selected grains of rice. At this round, participants can keep their eyes open.

Some examples:
- Subtract half from your pile of 30 grains of rice.
- Divide your group of 30 grains of rice into three equal groups.
- Add 7 more grains to your group of 30 grains of rice.
- etc...

TIPS / POSSIBLE ALTERNATIVES

Preparing mathematical operations to ask for
DESCRIBE A RECIPE

1 HOUR - 8 PARTICIPANTS

OBJECTIVES

Learn how to describe the quantities, the portions, the time required to prepare a dish.

This activity involves the storytelling, writing and description of a culinary recipe by each participant. It is important to develop this activity thinking about NUMBER DOSES, NUMBER OF PEOPLE, PORTIONS, COOKING TIME AND PREPARATION TIME.

First step:
the participants bring their favourite dish (if this is not possible, a photograph will be fine) and describe it explaining why it is such an important dish for them (for its taste, for its history, for its social meaning, for the sensations it evokes).

Step two:
Participants write the recipe on a flipchart and list the ingredients and quantities needed to create a tasty dish! It is important to indicate well how many pieces are needed (for example: 3 onions, two carrots, a clove of garlic etc..) and the weight (for example: 10 grams of sugar, 160 grams of pasta, 1 hectolitre of ham etc...). You can also draw the final dish or the ingredients giving a visual and funny image of the completed recipe.
HEALTHY DIET FOR ALL!
1 HOUR - 8 PARTICIPANTS

OBJECTIFS

Learning to recognise a healthy, balanced diet

During this activity participants will learn about and develop a healthy diet. All participants will be invited to draw, write, tell about their weekly diet on a flipchart. From Monday to Sunday, they will have to mark what they usually eat during the 3 main meals of the day: breakfast, lunch and dinner. It is important in this activity to focus on:

- number of courses
- amount of water drunk
- percentage of vegetables and fruit eaten during a meal
- percentage of meat eaten
- percentage of fish
- percentage of carbohydrates (bread, pasta, rice...)

After the participants' presentations the trainer will show a PPT on how a healthy and balanced diet should be, focusing on those foods that are considered harmful if consumed too much.

A discussion and brainstorming will follow.

TIPS / POSSIBLE ALTERNATIVES

The trainer should support the development of the activity by helping participants to narrate their weekly diet through flipcharts. He will also develop a power point presentation explaining the right amounts and percentages of meat, fish, carbohydrates that should be consumed (finding alternatives if the diet is vegetarian).

Helping the brainstorming process.
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