

Report on the implementation of the exhibition

Minimathematikum in Tolmezzo, Italy

May 6th – 24th 2019

1. The exhibition “MiniMathematikum” in Tolmezzo, Italy, in the context of the project “Maths for Minis”

In accordance with the project aims and planning, the second journey of the travelling exhibition “MiniMathematikum” was to Italy. The second destination was Tolmezzo, situated in the north east of Italy, where it was exhibited in the period 6-24 May 2019, in line with the project timeline. This project activity was conducted by the project partner Cramars – Tolmezzo.

In general, this activity was implemented with success, as planned.

2. Implementation

2.1 Preparatory phase

The preparations for the exhibition began in early January 2019, with internal meeting of a small group of Cramars staff, for the development of an action plan of activities, time arrangements, resources plan etc. for a successful conduction of the responsibilities related to the preparation of the exhibition.

According to these arrangements, in the period January – February 2019, comprehensive preparations were made in order to find a suitable exhibition space and to identify schools, kindergartens and other potential educational centres for the children aged 4-8 years as target

group of Minimatematikum.

Identification of suitable space. The most difficult part was to identify the space, we contacted the referent of the network Sbilfs that are in direct contact and work as councillors with local schools. They proposed us to share a space in Gemona del Friuli, but the idea was to host the museum in Tolmezzo so we tried another way by contacting directly directors of all Tolmezzo schools discovering that mainly schools building are owned by the Municipality of Tolmezzo.

We fixed some appointments with the municipality and at the end we got 2 rooms by the Secondary Public School of Tolmezzo, one was the room of the secretariat (because they moved to another public building) and the other the conference room.

Preparation of promotional material. An integral segment of the preparation was the development of promotional and informational materials for the project in general with special emphasis of the exhibition in Tolmezzo. This included translation and printing of the leaflet, translation of the newsletter, drafting of a cover letter for communication etc.

Promotion of the exhibition in educational facilities. For this purpose, the project and the exhibition were promoted in all the local schools and kindergartens via e-mail, first of all to the main districts then specifically to the single institutes of Carnia, then also to the school districts of all the Udine province. Following the previous experience of Skopje partners the schools and kindergartens were invited to join in by organizing group visits for their pupils in the age range 4-8 years.

We were lucky in dealing with the regional press and having an article written in the Messaggero Veneto as well as promote the initiative via a radio interview by the national RAI 1 – dealing at regional level.

Development of an exhibition schedule. In order to organize and conduct the exhibition in the best possible manner, with maximum efficiency and effectiveness, it was decided to make a schedule of visits. In the communication with the educational facilities, it was decided that the exhibition will be visited by the classes, led and accompanied by their teachers, defining maximum numbers of participants and visit shifts as following:

- Max 30 children per shifts
- Two shifts every morning from 09.00 to 10.30 and from 10.30 to 12.00 than on Wednesday, Thursday and Friday also an afternoon shifts from 14.00 to 16.00.

Logistical/technical coordination and preparation. This phase included communication with the project coordinator and partners from Germany, for the successful transport from Germany to Italy and setting up of the exhibits. The previous experience of the Macedonian partners were very useful to this purpose.

Conduction of a Learning/Training/Teaching Activity. This meeting was held in 3 days' time the 03rd, 04th and 06th of May 2019 and was a very important part of the preparation of the exhibition, as it offered introduction into the technical aspect of the exhibition as such, but moreover it aimed at equipping the team with the information, knowledge and know-how on the idea, concept and background of "Minimathematikum" in general and with instructions and recommendations on approaching and guiding the young visitors through each play station. The gained knowledge was very valuable and used in practice throughout the everyday work with the children. We also recorded some videos of explanations to share with the school involved in the project as alternation school/work.

Involving Secondary School students to the exhibit. In collaboration with the Institute Linussio of Tolmezzo, a high school that deals with training young people on the subject of pedagogy and preparing them for their future university studies in the field of education, we involved 7 students in the afternoon shifts for their project, managed by the school, of alternation school / work. This with the aim to give them the opportunity, for didactical reasons, to directly observe the behaviour of the little ones in the training / play activities of the exhibits.

2.2 Conduction

The exhibition was held in the period 6 – 24 May 2019. Eleven elementary schools (classes 1 to 3) and ten kindergarten participated. In addition, children with parents, a community for disabled, a secondary school were welcomed.

A total of 494 children in the age 4-8 years visited MiniMathematikum. Also, a group of disabled adults visited the exhibition.

All the schools, that took part at the exhibition, showed great interest and motivation. Especially a school asked, after first visit, to be able to come again.

As recommended one visit lasted 90 minutes. The game stations were divided in two rooms, so children staid about 40 minutes in each room. The last 10 minutes have been used to ask feedback and impressions to the children.

3. Evaluation of results

The analysis of the project documentation showed following figures:

- Teaching staff: about 90
- Children in total: 494 (228 girls and 266 boys). Out of them, 35 children from immigrant families, 1 Roma, 12 with disability.

Date	Female Children	Male Children	Children from immigrant families	Roma Children	Disabled	Total
7.5	11	9	2 (f)	/	/	20
8.5	10	10	/	/	/	20
9.5	12	10	/	/	/	22
10.5	9	9	1 (m)	/	/	18
10.5	11	7	/	/	/	18
14.5	7	16	1 (m)	/	/	23
15.5	5	3	1 (m)	/	/	8
15.5	11	15	/	1 (m)	/	26
15.5	13	10	/	/	/	23
16.5	4	9	/	/	/	13
16.5	13	10	1 (m); 2 (f)	/	/	23
16.5	1	8	/	/	/	9
17.5	5	8	1 (m); 1 (f)	/	/	13
17.5	10	8	1 (m); 3 (f)	/	/	18
20.5	4	10	/	/	/	14
20.5	13	9	1 (m); 4 (f)	/	/	22
21.5	5	4	/	/	/	9
21.5	5	7	1 (m); 1 (f)	/	/	12
21.5	3	3	/	/	3 (m); 3 (f)	6
22.5	13	13	2 (m); 2 (f)	/	/	26
22.5	9	14	6 (m); 3 (f)	/	/	23
22.5	2	1	/	/	/	3
22.5	7	7	/	/	/	14
23.5	7	23	1 (m)	/	/	30
23.5	2	4	/	/	4 (m); 2 (f)	6
23.5	6	9	/	/	/	15
24.5	8	5	/	/	/	13
24.5	11	11	/	/	/	22
	228	266	35	1	12	494

4. Dissemination

For the purposes of dissemination of information about the project and its activities in Tolmezzo, Cramars prepared promotional materials, conducted meetings with Municipality, managerial and teaching staff of kindergartens, elementary schools, cultural houses, day care centres for children etc.

Information was spread through the website, as well as on the FB profile Cramars, through which 3132 people were reached through the reporting during the exhibition period.

In addition, Lifelong Learning Center created a separate page Minimathematikum Macedonia, where info and pictures from the exhibitions were posted on daily basis. A total of 5832 people were reached through this page before and in the period of the exhibition in Tolmezzo.

More detailed overview of the dissemination activities is given in the Dissemination grid but just to list it we had a great interest and a lot of articles online and on newspapers as well as a radio interview at:

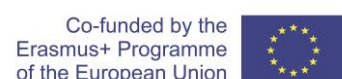
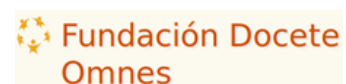
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- Ifriuli.it
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- It.geonews.com
- Messaggero Veneto
- news.rsn.it 28.05.19
- news.rsn.it 29.04.19
- studionord.news 28.05.19
- studionord.news 29.04.19
- TGR FVG - rainews.it
- Virgilio

5. Experiences/ Findings/ Recommendations

The participation of Cramars in this project in general, and the opportunity to organize and host the exhibition Minimathematikum, was a unique experience. For the team of the Center it was a valuable new experience and an extraordinary learning opportunity, especially because we normally deal with adults, but we found out that dealing with children is really funny.

Logistic:

Although it was challenging to manage the 1,5 tons heavy exhibition and to create all necessary conditions for putting it together, it was managed smoothly.



In this regard, all instructions that came from the side of the German partners were crucial and very useful for successful technical management at the beginning and the end of the exhibition. For security reasons we used the exhibits to cover some dangerous points so that the children could not see them and did not stumble.

Observations during group visits:

From the three-weeks hosting and guidance of 29 groups of 494 children, following experiences were made:

- The children are impressed, they are euphoric; lot of them ask where they can buy soap station to make the big bubble.
- Favourite games: big soap bubble, mirror hut, ball race track, gears, bricks building.
- Children avoid special play stations: stations that need bigger effort or attention to focus in order to solve the task (for example the pyramid construction) and draw looking the mirror.
- Children asked help to build the bridge.
- It was not intuitive the play at the table where they have to recognize hidden objects.
- The children don't follow the pictograms of the game stations.
- Children of elementary school lose attention in some stations (ducks are too simple for them).
- Children begin to play with preferred play stations. They were bound by their teachers to test more difficult and challenging stations.
- Trend to abandon more challenging stations, if they fail to complete the game.
- At the end of the 90 minutes foreseen for the visit, someone asks to stay more time.
- Children climb mirror hut.
- Useful to give introduction at the beginning and communicate some directions (for example use big soap bubble one by one).
- From the discussions with the teachers it is clear that, in the majority of cases, this kind of approach in bringing mathematical concepts in a practical and playful game is not present in the formal school education in Italy.
- Some schools could not participate for logistic and transport reasons.

6. Conclusions and recommendations:

As far as the logistics and organization of the exhibition are concerned, the next working groups are advised to start disseminating the initiative well in advance as it is difficult for schools to ask for permission from the school or parents, organize the bus and include the activity formally from an educational point of view.

Attention to the safety of the spaces made available to prevent accidents and injuries, for example we have covered all protruding corners, closed any pipes or power outlets.

Keep the net within reach to foam the soap bubbles to allow the use of the game station in the most correct way.

With the help of the previous experience and the report developed by the Macedonian partners we developed a checklist which we recommend to follow not to forget advice and key indication.

It is necessary to explain to the children the exposition and introduce the games in an area far from the games themselves, at the entrance or in the lobby because when they see the plays, they absolutely lose the concentration for the great curiosity.

Make a discussion circle at the end of the meeting to ask the children for an evaluation of the experience, for example, ask kindergarten children what were the most interesting games for them and in addition, for children from the elementary schools, what was teaching behind or if they learned anything from the plays.

If the location is divided into two rooms, calculate the right time for each room in each group by 40 minutes plus the final 10 minutes for feedback for all - divide the groups into games or by room if numerous.

The children, especially the smaller ones, did not get bored after 90 min. indeed they asked if there were other games available or if they could return for a second meeting.

If the games are to be divided into different rooms, it is better to think about the interest and attractiveness of each play to be able to distribute them in the best way so that both rooms have at least 2 more "interesting" or "attractive" games.

The activity to be done at the table of the recognition of hidden objects was not very intuitive, so it is necessary to give at least the indication to the teacher so they can more easily guide the children.

Ask help from teachers to better deal with water games especially the big bubble. The children alone don't understand that, for security reasons and for the fact that the floor will be slippery after the first bubble, they have to stay in line and follow some rules.

We have experimented the play stations even with a group of disabled people (physical and mental), adults aged 25 to 50 years, after the previous supervision by their educators and the result was really positive. They showed enthusiasm and surprise in the various games especially the water games also if they could not access them (for example because of the wheelchair). Apart from the water games for which they had not access, all others were within their physical and mental reach.

7. Photo Gallery

