REPORT OF THE REPOSITORY WORKSHOP

[DELIVERABLE 5.3]

Authors: Annalise Duca, Angele Giuliano - ACROSSLIMITS

Reviewer: Julian M. Angel - TU WIEN

ER4STEM - EDUCATIONAL ROBOTICS FOR STEM

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2 DOCUMENT REVISION HISTORY

Version Number	Date	Description	Author
V1	10/01/2018	Structure of Document	Annalise Duca
V2	17/01/2018	First input after Webinar 1	Annalise Duca
V3	23/01/2018	Input after Webinar 2	Annalise Duca
V4	25/01/2018	FInalisation of Deliverable	Angele Giuliano
V5	30/01/2018	Internal Review	Julian M. Angel-Fernandez

3 CONTRIBUTORS

Name	Beneficiary	Section affected
Annalise DUCA	AL	All sections
Angele GIULIANO	AL	All sections
Julian M. Angel-Fernandez	TUWien	All sections

4 DISCLAIMER

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5   EXECUTIVE SUMMARY

5.1 ROLE/PURPOSE/OBJECTIVE OF THE DELIVERABLE

This document is a report based on the 2 workshops completed by AcrossLimits together with the SCIENTIX *ambassadors and/or* SCIENTIX *National Contact Points to explain how to use the educational repository works*" of Work Package 5, titled "*Technology for Educational Robotics*". As part of this work package a state-of-the-art repository was built in support to other deliverables. The aim of the workshops was to ensure that educators, teachers and researchers across Europe get to know about how they can make use of the repository, as well other outcomes of the project.

5.2 RELATIONSHIP TO OTHER ER4STEM DELIVERABLES AND TASKS

Deliverable 5.3 is directly linked with Deliverable 5.4 ER4STEM Repository, this will be submitted at the end of the project with full information and details of how and what users can find in the repository. It is also related to Task 8.4 SCIENTIX under WP8 - Dissemination since we have involved the SCIENTIX community and reached out to their Ambassadors as the participants of these workshops

5.3 STRUCTURE OF THE DOCUMENT

This document provides a narrative of the preparation, implementation and evaluation of the SCIENTIX workshops held by AcrossLimits in collaboration with all the project partners in January 2018. Each chapter deals with a specific issue related to the above and shows with images and data, the positive results that these workshops have had.

6 INTRODUCTION

The Project Description of Work stated that face to face workshops together with SCIENTIX ambassadors needed to be held in Brussels. Therefore the project partners contacted the organisers in April, 2017, and were invited to attend a SCIENTIX workshop in May. However this was very close and was not possible both for logistics purposes and because the repository was still under development. It was agreed that SCIENTIX will inform us to attend a "*Science Projects Workshop*" (SPW) in October of 2017.

Planning the workshops started taking place in July 2017. During this time, partners agreed the aims of the workshop. These aims included:

- Hands on approach on using the repository
- Understanding the link between the activity plan and the repository
- The framework and the repository of ER4STEM

During September - October 2017, discussions were taken place with Ms. Agueda Gras from European Schoolnet (EUN) to attend another SCIENTIX workshop which was going to be held on the 28th October 2017. It was confirmed and agreed that the project ER4STEM would have 10 minutes slot in the morning and 1.5 hour slot in the afternoon for 50 teachers. We were later on informed that we will have access to only 12 teachers in the afternoon workshop. AcrossLimits, as workpackage leaders felt that considering the traveling and logistics costs involved to do a workshop with just 12 teachers, this was not sufficient and would not reach our aims and objectives as previously mentioned. Other options included holding shorter 45 minute workshops with 2 groups of 12 teachers each, but again, we felt that 45 minutes is rather a small amount of time.

It was then agreed with all the partners and with SCIENTIX, that 2 webinars will take place instead, on 2 different dates at the beginning of 2018 and this would be also opened to the public, while using the SCIENTIX channels to invite all the ambassadors and their contacts. This would have the added advantage to reach out also to those teachers who did not have the capability to travel to Brussels due to financial or family reasons and should reach more people. An aggressive marketing campaign was planned in order to ensure that many teachers and ambassadors attend.

The workshops related to the deliverable took place on the 16th January 2018 between 4:00pm - 5:00pm CET and the 22nd January 2018 between 4:00pm and 5:00pm CET. More information about the planning, agenda, registration and evaluation can be found hereunder.

7 PREPARATION

In this section, one can find details about the agenda, the registrations and demographics. The support being given by SCIENTIX is also explained in this section.

7.1 THE AGENDA

The below agenda / information document was distributed to SCIENTIX and other contacts by all the partners. The agenda below highlights all the important parts of the project. We felt that it was of utmost importance that we explain the framework and the activity plan design and how we arrived to the repository that we have.

ER4STEM - Repository Workshop (Webinar)
16th January 2017 - 4:00pm - 5:00pm - CET or
22nd January 2017 - 4:00pm - 5:00pm - CET

AGENDA

Overall Moderator: Christina Todorova - ESICEE (Bulgaria)

4:00pm - 4:05pm	**Welcome to the webinar** Ms. Angele Giuliano - AcrossLimits (Malta)
4:05pm - 4:10pm	**What is ER4STEM?** Ms. Angele Giuliano - AcrossLimits (Malta)
4:10pm - 4:15min	**The ER4STEM Activity plans** Dr. Nikoleta Yiannoutsou - UoA (Greece)
4:15pm - 4:18pm	**The ER4STEM Framework** Dr. Carina Girvan - Cardiff University (United Kingdom)
4:18pm - 4:20pm	**The link between the framework and the repository (Ontology)** Dr. Julian Angel-Fernandez - TU Wien (Austria)
4:20pm - 4:25pm	**The Repository** Annalise Duca - AcrossLimits (Malta)
4:25pm - 4:40pm	**Hands-on using the repository** Annalise Duca - AcrossLimits (Malta)
4:40pm - 4:45pm	Question and Answer Session
4:45pm - 4:50pm	Next steps and Events Wilfried Lepuschitz - PRIA (Austria)

HOW TO REGISTER?

Are you a teacher struggling to keep your students motivated? Would you like to learn about using robotics in your class but are wondering how to go about it? Join us in one of our upcoming webinars to learn about these exciting new technologies. Register today - goo.gl/6ZrzUH

PARTNERS

Vienna University of Technology (TU Wien) - Austria / European Software Institute - Center Eastern Europe (ESI CEE) - Bulgaria / Practical Robotics Institute Austria (PRIA) - Austria / University of Athens Educational Technology Lab (UoA) - Greece / AcrossLimits (Malta) - Malta / Cardiff University School of Social Sciences (Cardiff University) - United Kingdom / Certicon (CE) - Czech Republic

7.2 REGISTRATIONS

7.2.1 Registration Procedure

An online form was created to accept registrations for the webinar. This was proved to be very successful, and in total we had **197** participants that registered. Statistics and demographics about the participants can be found in the subsection below.

The registration form (Figure 1) can be accessed from here.

Figure 1: Registration form for webinars

7.2.2 Demographics of the Participants

The below are some demographics taken from the people that registered to attend our webinars.

7.2.3 Countries

Table 1 hereunder outlines the countries of the participants that registered for the webinars. These clearly show that we have managed to reach many different nationalities. Most registrations where from Turkey. An interesting fact to point out is that we had even participants from non-european union countries.

Albania	3
America	1
Austria	1
Belgium	2
Brazil	1
Bulgaria	11
Canada	1
Croatia	1
Czech Republic	2
France	2
Germany	1
Greece	16
India	1
Italy	8
Lithuania	5
Macedonia	2
Malta	1
Netherlands	1
Poland	1
Portugal	3
Romania	16
Serbia	2
Singapore	1
Spain	4
Switzerland	2
Turkey	92
Ukraine	3
United Kingdom	2

Table 1: List of countries and the number of registrants

7.2.4   Occupation and Teaching Subject

Most of the participants that registered, were teachers, however the list included also students who are carrying out a PhDs, researchers, head of schools, coordinators and professors. Such profiles also vary in terms subject that they teach, and amongst those that specified their subject we had ICT, Physics, Science, Chemistry and English teachers.

7.3 SCIENTIX SUPPORT

As already mentioned in the previous section, SCIENTIX offered their full support to help us in the ER4STEM webinars. Our webinars were submitted and advertisted at http://www.scientix.eu/events, while we have also been given the opportunity to use their online meeting room. During both events, a representative of SCIENTIX was there to help us in any technical issues.

Further to this, they helped market our events using their social media channels. More about this in section 9.

8   THE MARKETING

8.1 SOCIAL   MEDIA

From previous experience when it comes to webinars, it is a common practise that if people register for a webinar way before the actual day, they will forget or do other appointments. Therefore the marketing and online registration push for getting participants started taking place a few weeks before the actual dates of the webinar. Marketing and dissemination took place in 3 different formats. More details about each channel hereunder.

Different channels of Social media were used. The below are a list of pages and screenshots of the pages / channels that helped us spread the word about the webinar and also about ER4STEM in general.

Figure 2 below shows the official ER4STEM Facebook Page - https://www.facebook.com/er4stem/. This shows the main post that was used to market the webinars on the ER4STEM official Facebook page. The full post can be seen from this link. The post in question reached over 32,900 people with the video having over 18,400 views. A number of comments and shares were also done, which helped in disseminating the word about the webinars further..

Figure 2: ER4STEM Official Facebook Page

The project partners took the initiative to share these webinar on their own social media pages. These can be seen in Figure 3.

- AcrossLimits Facebook Page - https://www.facebook.com/acrosslimits/
- ESI Center Eastern Europe (ESI CEE) - https://www.facebook.com/esicenter.bg
- Educational Technology Lab - UoA - https://www.facebook.com/educationaltechnologylab
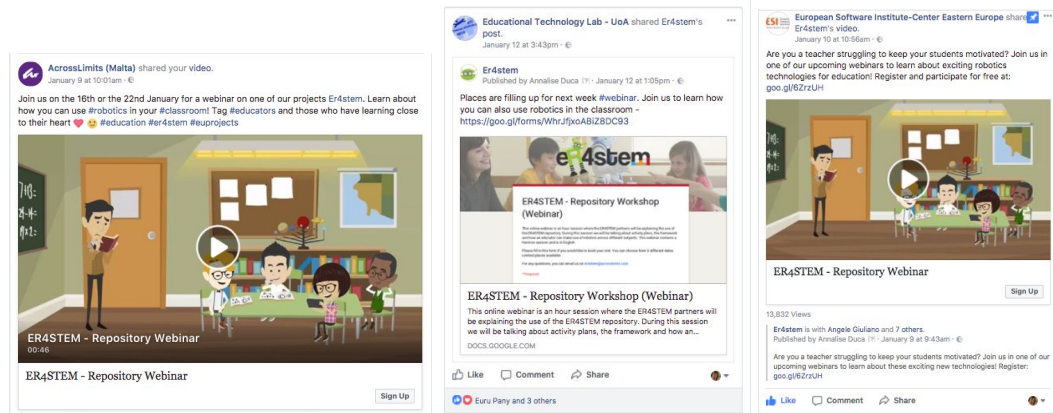
Figure 3: Screenshots from partners' social media pages.

SCIENTIX also tweeted a number of posts on their official twitter page for both webinars. These posts can be found in the SCIENTEX Twitter Page: https://twitter.com/scientix_eu. Figure 4 below shows a copy of some of the tweets.
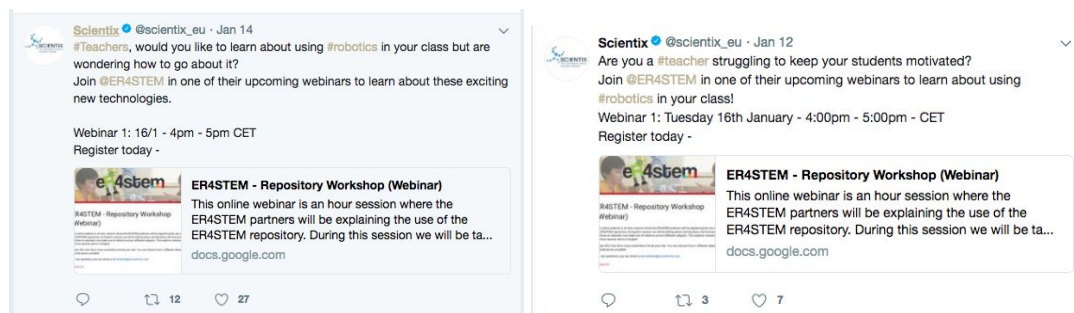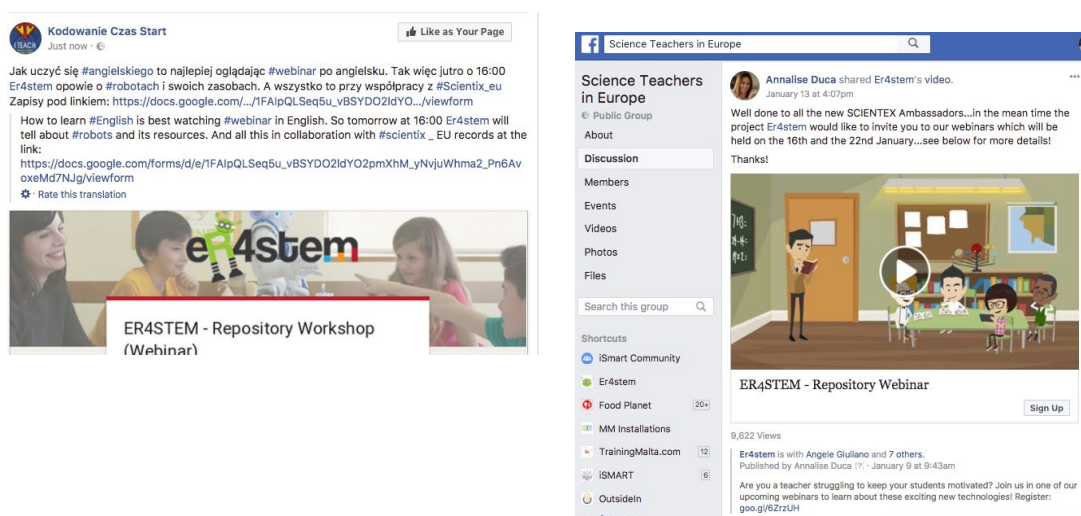

Figure 4: Tweets from SCIENTIX

Other mentions/shares include project partners post on their personal Facebook profiles and post in different groups that are targeted to stakeholders. See hereunder in figure 5.
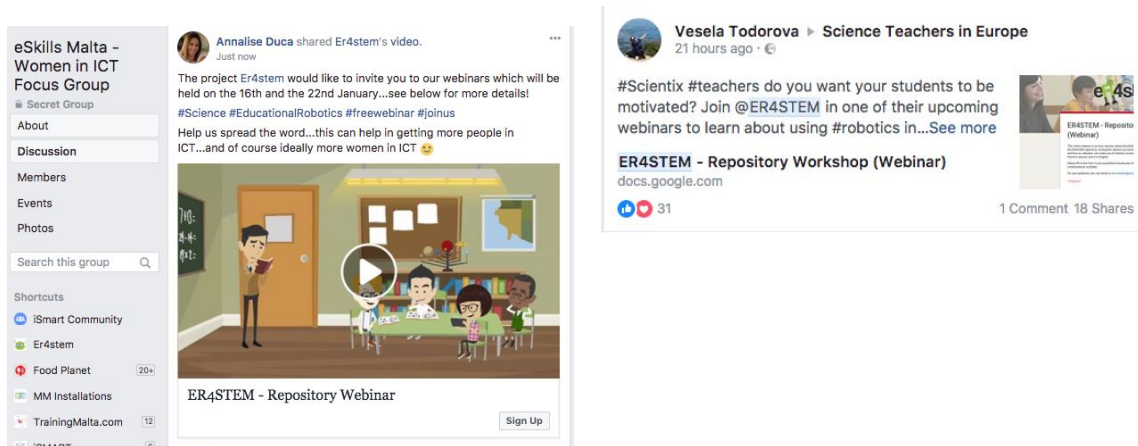
Figure 5: Other social media

8.2 Email Marketing

This was done by all the partners, where an email was created and all partners were asked to forward it to their contacts. Apart from this, the euRobotics - European Robotics let us use their public mailing list and a message about the webinar was sent to 5551 subscribers. This message can be seen in Figure 6.
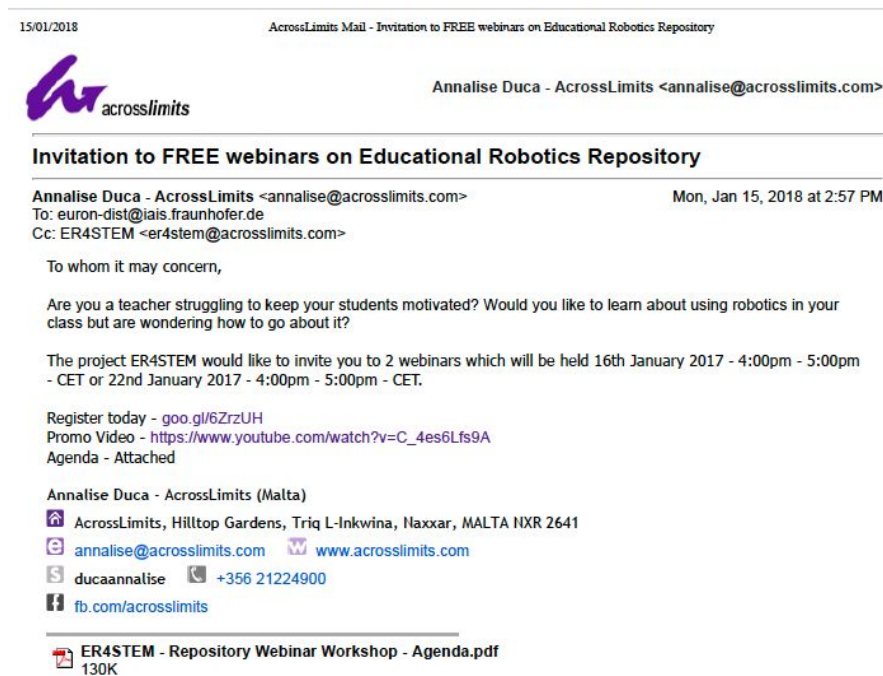

Figure 6: Email sent to euRobotics Database

8.3 VIDEO PRODUCTION

A short video was produced, as a teaser for the stakeholders about the ER4STEM project and also to inform them about the webinars. 2 variations of the video were done so that as a project this could be used to disseminate and market the ER4STEM repository. The second version of the video, promotes the use of the portal and will be used to further promote the repository. The video production to promote the webinar was uploaded on YouTube with subtitles in four languages - English, German (Austria), Greek and Bulgarian - https://www.youtube.com/watch?v=C_4es6Lfs9A. The same video was also published on the ER4STEM facebook page, and over 32,900 people have been reached with a paid campaign.

As shown hereunder in Figure 7, we ran two sponsored campaigns. In these sponsored campaigns, there have been over 17,000 video views, with over 10,000 user engagement. Overall the original post received over 25 reactions, 12 comments and over 20 shares. This can be viewed here. https://www.facebook.com/er4stem/videos/1798001806911299/.
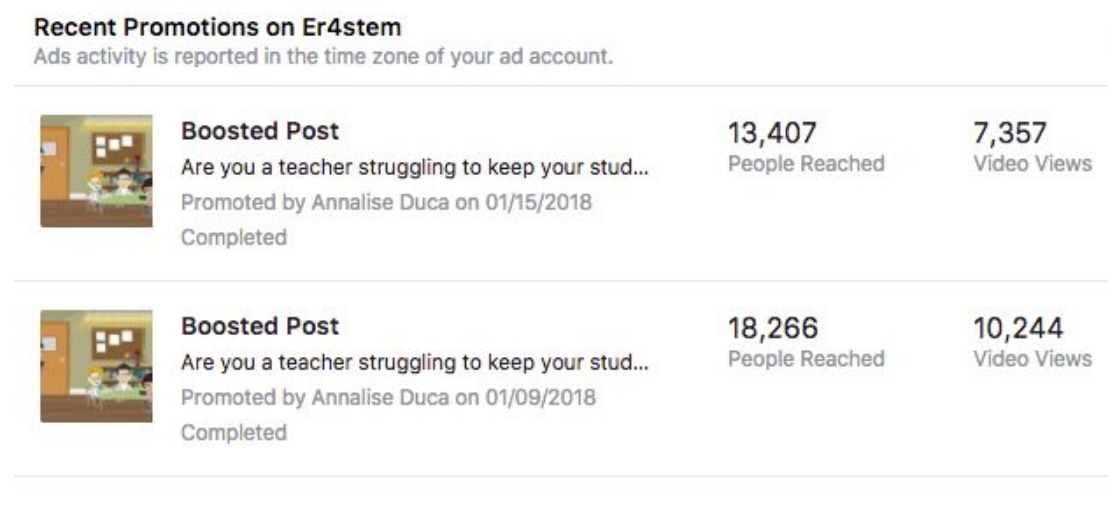

Figure 7: Facebook boosted campaign

9   THE IMPLEMENTATION

9.1 WEBINAR 1: TUESDAY 16TH JANUARY 2018 - 4:00PM - 5:00PM CET

This was the first webinar to be organised. Figure 8 shows the email that was sent in the morning as a reminder and also informing the participants how to connect to the webinar.

Figure 8: Email sent to all participants

During this webinar we had a total of 42 participants which were all actively asking questions. All the presenters took the lead, and the webinar went as expected. The number of participants was very positive and proves that the webinar format choice has helped us reach more people.

After this session, there was a number of participants that registered on the platform. Moreover a thank you note was sent to all the people that registered and that joined the webinar.

The webinar was recorded, and can be seen from here: https://eun2.adobeconnect.com/pdclgx52s69l/. Figure 9 shows a still from the webinar.
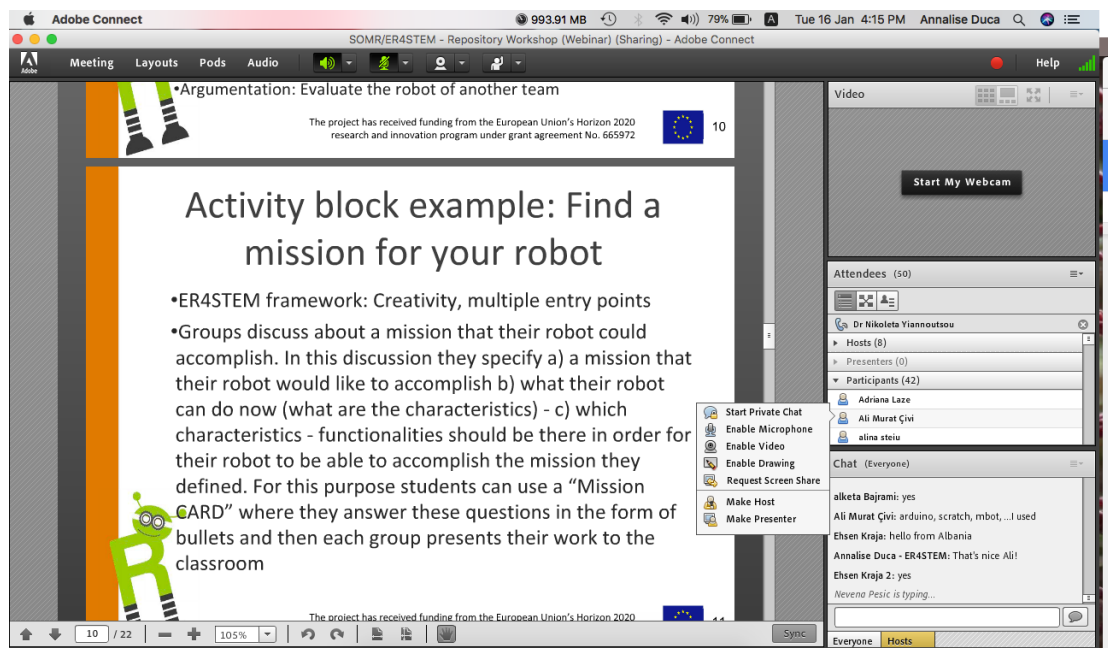

Figure 9: Screenshot from webinar

All participants were invited to create an account and also to fill in the evaluation questionnaire. The aim of the evaluation questionnaire is to identify the impression of the repository and the webinar for

those that participated. More about this can be found in section 10. A follow up email (Figure 10) was sent the day after.

Dear Educators,

Thank you for attending our webinar yesterday, it was a great pleasure to have you part of our project ER4STEM.

May I remind you that you can SIGN UP for a **FREE** account at http://repository.er4stem.com. In this repository you can:

- Search for other **activity plans** and get them implemented in your classroom
- Submit and share your own activity plans using **robot** technology

Please do not forget to give us your **feedback** by filling in this form - https://socsi.qualtrics.com/jfe/form/SV_02ukzAy5NSb0G9v

Attached to this email, you can also find the **presentation** that have been used.

P.S: If you didn't manage to make it to the webinar yesterday, we have another webinar on Monday 22nd - **Register** here - https://goo.gl/forms/vA8Fq1SkivaNOaD53

Annalise Duca - AcrossLimits (Malta)

AcrossLimits, Hilltop Gardens, Triq L-Inkwina, Naxxar, MALTA NXR 2641

annalise@acrosslimits.com   www.acrosslimits.com

ducaannalise   +356 21224900

fb.com/acrosslimits

ER4STEM - Repository Webinar Presentation - January 2018.pdf
1109K

Figure 10: Follow up email

9.2 Webinar 2: Monday 22nd January 2018 - 4:00pm - 5:00pm CET

Similar to the previous webinar, an email was sent before the webinar to give the participants the necessary details to log in to the session. A thank you note was also sent after. During this webinar, we had a total of 43 people that joined the webinar. All participants where very active and interesting questions about the project were raised.

The project partners were more confident in this second webinar and this can be seen in the recorded session. We had also more visual engagement with all the speakers switching on their webcams and this allowing also for the personal touch to be felt throughout the online medium.

Recording: https://eun2.adobeconnect.com/pcwj7l0whkd4/. Figure 11 shows a still from the second webinar.
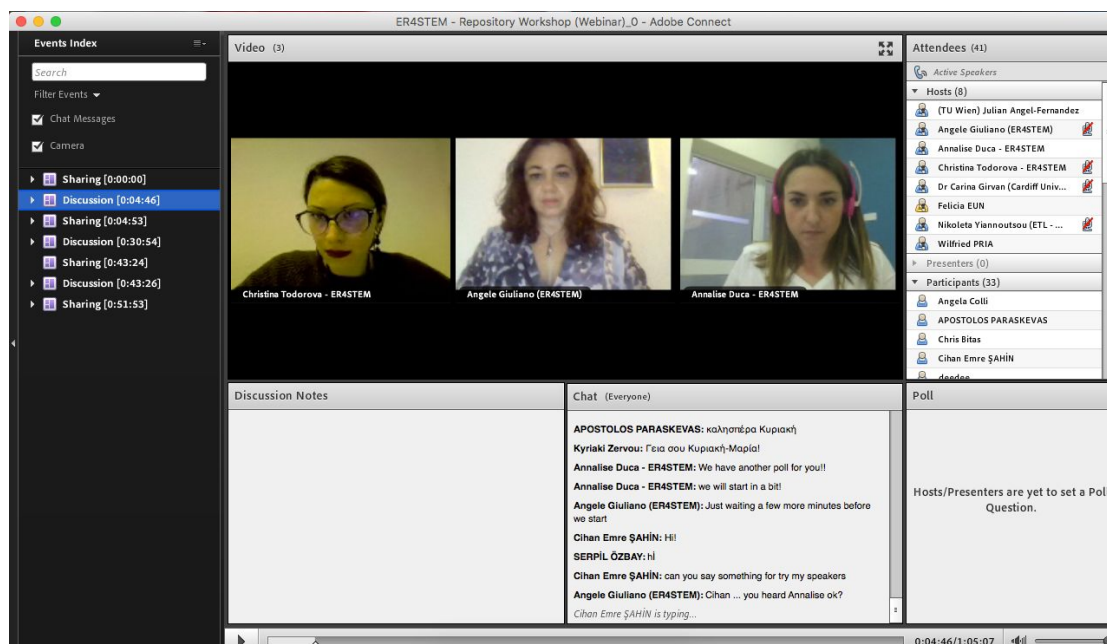
Figure 11: Still from the second webinar.

9.2.1 Polls

During the second webinar, a number of polls took place during the webinar itself. These discussions proved to be very engaging for the participants. The questions and responses are found hereunder.

In table 2 one can see that 27.5% of the people that answered this question during the webinar said that they are already using robots in the classroom, but would like to learn more. Another 48% stated that they are not using robotics yet, but would like to give it a go. Therefore one can say that resources and education on using robotics for teachers are really important, since there are a number of people who would like to start using robotics for educational purposes.

Have you ever worked with robots in the classroom?	
Yes	24.1%
Yes but I would like to learn more	27.5%
No, but I am scared to try	0%
No, but I would really like to give it a go!	48.2%
What's a robot?	0%

Table 2: Questions and answers during the poll

Table 3 below shows that 75% of the people signed up instantly for the repository during the webinar.

Did you sign up on the repository?	

Yes	**75.4%**
No	5.88%
I will do it later	17.6%

Table 3: Results from the second poll

10 PARTICIPANTS EVALUATION

At the end of both webinars, the participants were asked to give their quick evaluation and feedback using an online form. The aim of this evaluation form was to identify the profile of the particiaptns, and to get their first impression of the repository. The feedback questionnaire was filled in by a total of 80 participants, this shows that nearly all the participants that joined the webinar filled in the feedback questionnaire. Hereunder, one can find a summary of the evaluation feedback. The online form can be found on: https://socsi.qualtrics.com/jfe/form/SV_02ukzAy5NSb0G9v.

Question 1: What is your profession?

Figure 12 shows that 90% of those that participated are teachers. For those that answered "*other*", their profession varied from Education officer, social educator and advisor, together with a vice principal.
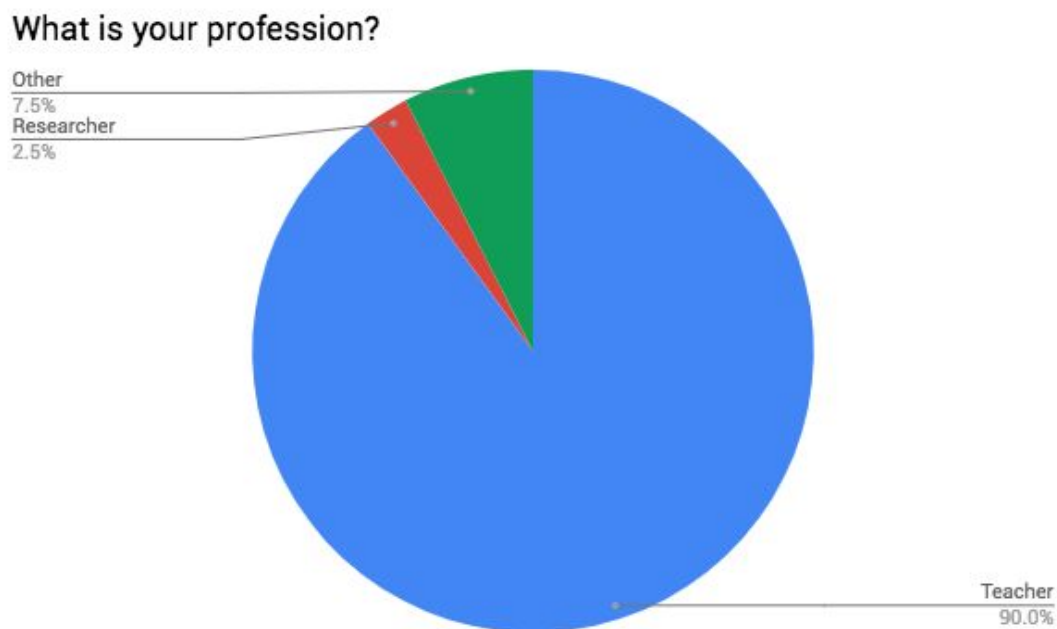

Figure 12: Chart illustrating the results

Question 2: What subjects do you teach?

For this question, 42 participants answered this question. Figure 13 shows that 22.9% where primary school teacher, meaning that they teach a variety of subjects. This was followed by 18.8% that stated

that they teach computer science. What is nice to see is that we had 10.4% teachers who were English teachers, with a further 4.2% kindergarten teachers.
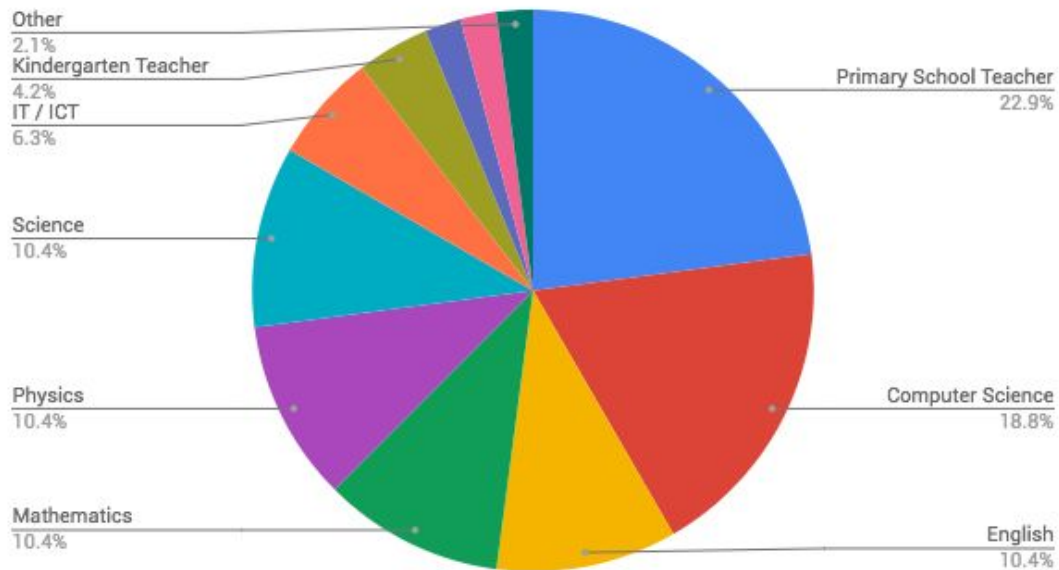
What subject(s) do you teach?

Figure 13: Chart illustrating the results

Question 3: What ages do you teach? (please tick all that apply)

Figure 14 below shows that the majority of the teachers, teach 16 year olds, followed by 18 year olds.
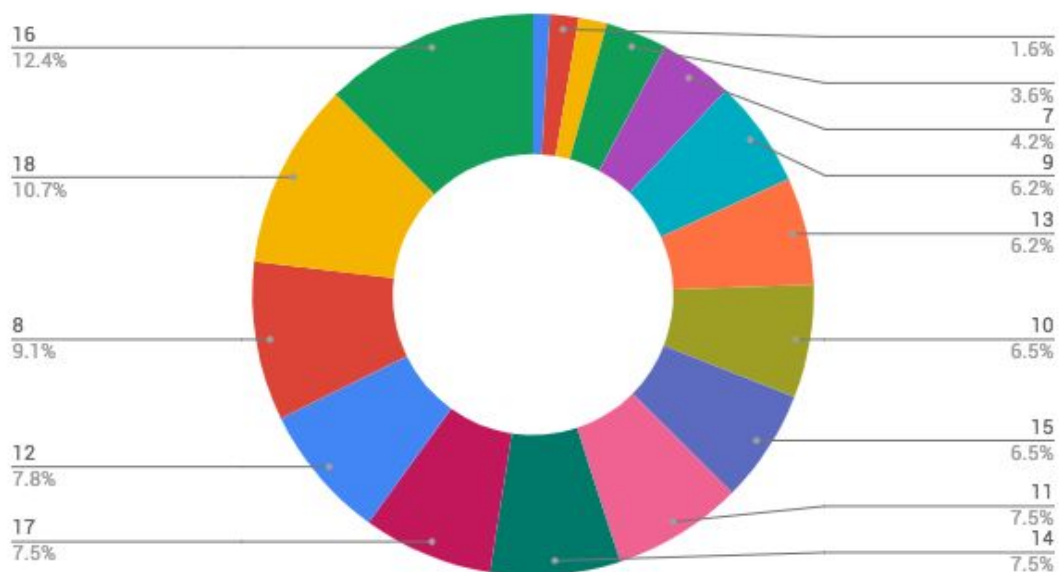
What ages do you teach?

Figure 14: Chart illustrating the results

Question 4: Do you use robotics in your classroom already?

From figure 15 one can see that 52.5% of those that answered the question are not already using robotics in the classroom.
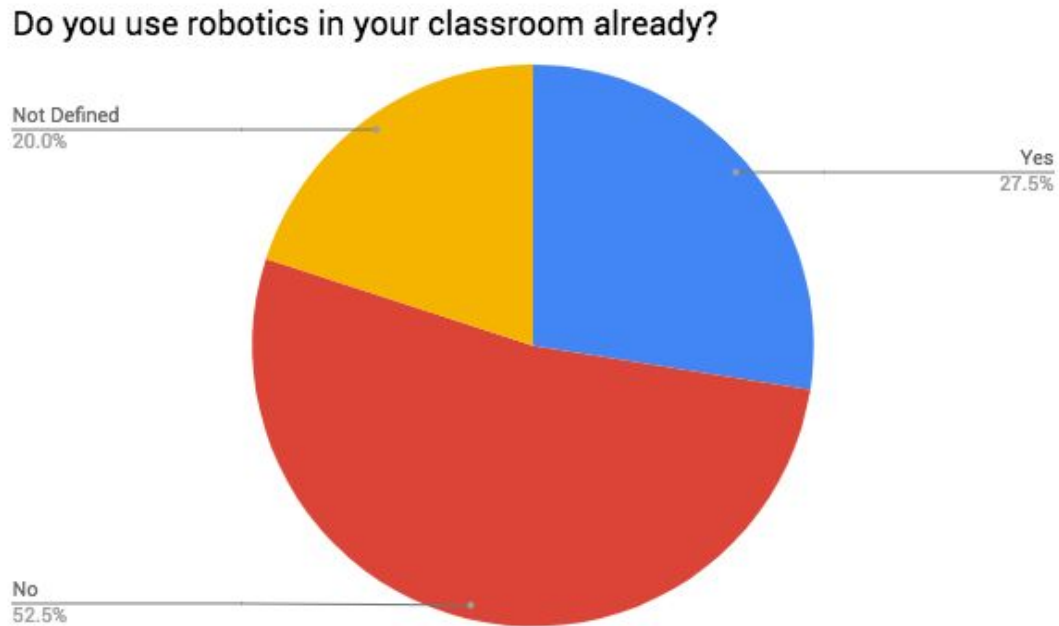

Figure 15: Chart illustrating the results

Question 5: Which country do you work in?

Figure 16 shows that the majority of the participants where from Turkey, followed by Romania and Greece.
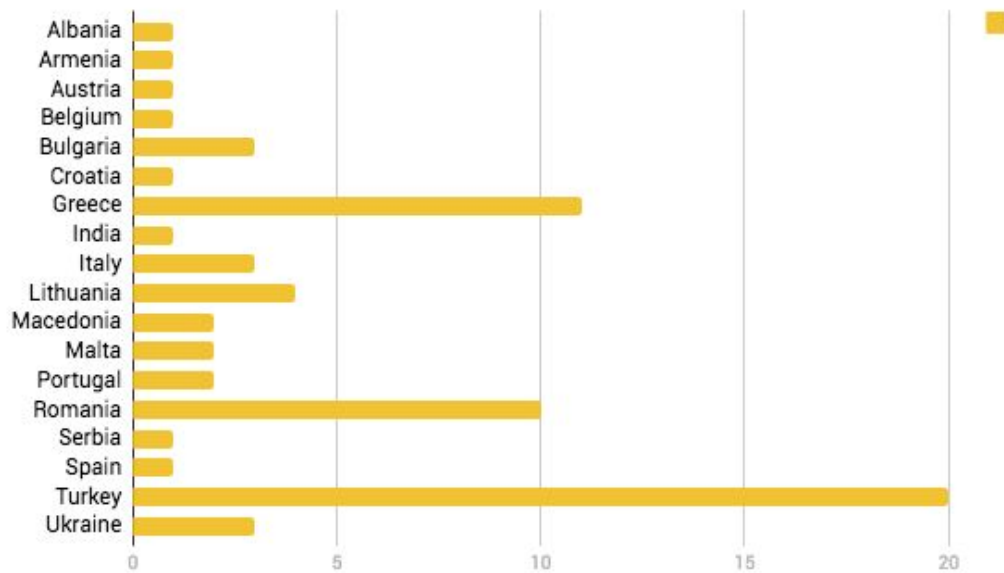
Which country do you work in?

Figure 16: Chart illustrating the results

The below are set of questions asked about the repository. The questions and relevant observations with graphs follows.

Question 6: How easy is it to navigate the repository?

Figure 17 shows that 39.3% of the participants stated that they found it extremely easy to use the platform with another 31% stating that it was somehow easy.

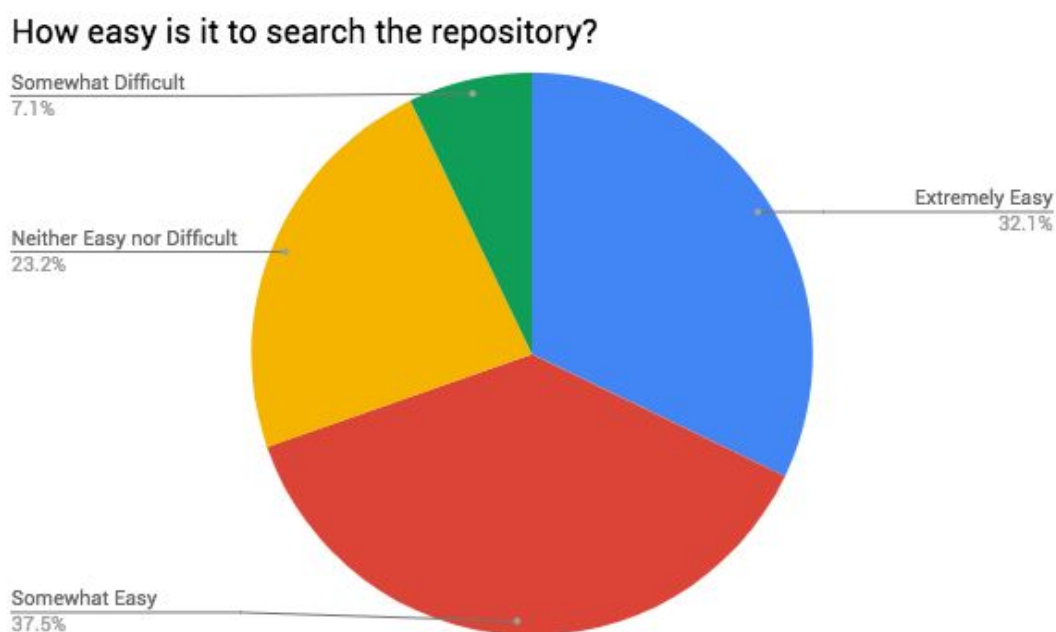## How easy is it to navigate the repository?
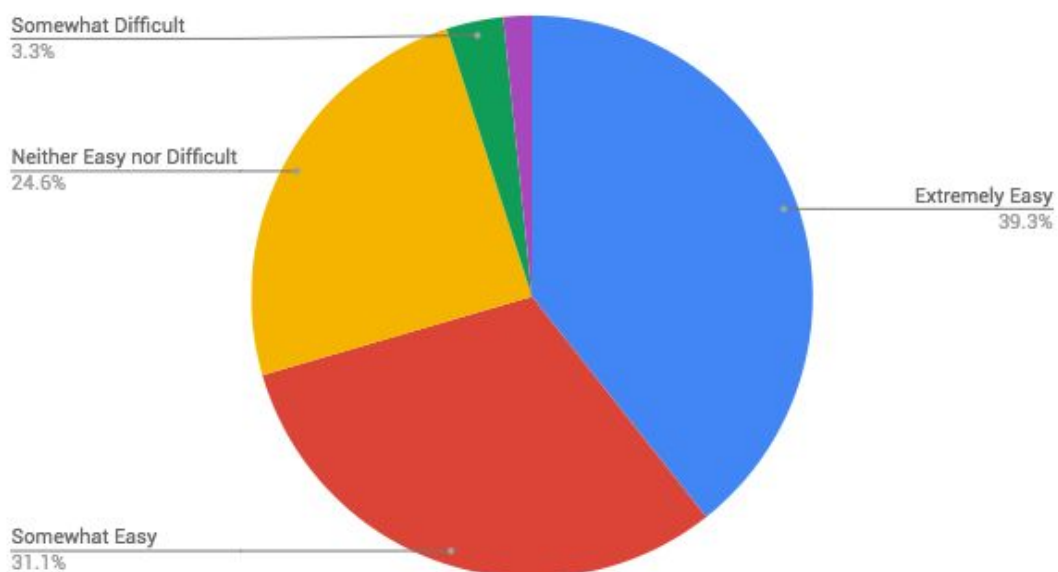
Figure 17: Chart illustrating the results

Question 7: Tell us more about your experience to help us improve the repository for others.

This question was a free text, and from those that answered this questions their answers included:

- It was quite easy to download and start the programme.
- He webinar was very useful, it help me have a different point of view on robotics
- I am in my class, using scratch and arduino.and mbot
- I can help you.
- I have no experience yet
- I have to click several times before the download starts
- I will learn to work with him
- I'm not sure.
- It is simple for everyone
- It is very easy. And find it very useful.
- It is very interesting, but I need more time and education for using in more subjects
- it was my first time and i am very satisfied
- make a section for you tube video
- None

Question: 8: How easy is it to search the repository?

Figure 18 shows that from those that answered the question, 37.5% stated that they found it somewhat easy to search, with another 32% stating that it was extremely easy.

How easy is it to search the repository?

Somewhat Difficult
7.1%

Neither Easy nor Difficult
23.2%

Extremely Easy
32.1%

Somewhat Easy
37.5%

Figure 18: Chart illustrating the results

Question 9: Tell us more about your experience to help us improve the repository for others.

The below are answers given by the participants with regards to how we can improve the repository

- All fine
- Everything is ok
- I am not sure what is the difference between "search" and "advanced search"
- I have no experience yet
- I need more time.
- It is simple for everyone
- It is very useful and the different languages are very good.
- It would be helpful if we could search by technology for example BeeBot
- This will benefit the students and me

Question 10: Will you use the repository in the future?

Figure 19 shows that from the 57 participants that answered this question stated that nearly 60% will definitely use the portal with another 40% saying that they will probably use it in the future.
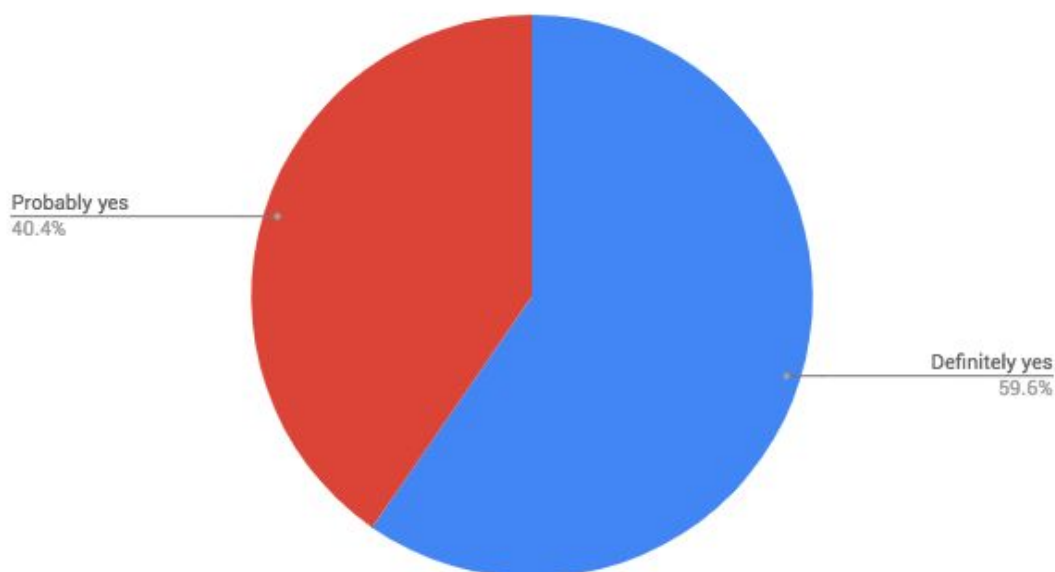
Will you use the repository in the future?

Probably yes
40.4%

Definitely yes
59.6%

Figure 19: Chart illustrating the results

Question 11: Please tell us why.

The below are the responses for those that specified a reason.

- A lot of very interesting resources
- It's a necessary
- Always interesting to see new ideas or other points of view
- Because i am looking for resources about the topic
- Because I teach students from 5 - 10 years and they need interesting classes
- Because the experiences from the teachers are important for me.
- Because there are many activity plans which I can implement in class.
- Firstly to search the activity plans, secondly maybe to upload an activity plan...

- I am a member of a project on computational thinking and how to use coding and arduino in solving a daily life problem. I can make use of repository in this project.
- I am interested in this domain
- i have learned so much
- I hope to introduce in my classroom stem education
- I will try
- Interesting
- Intriguing ideas, useful workshops and material
- It is a good source
- It seems that have interesting events and lessons
- It's another way of communication. Why not to use?
- It's is very useful to connect with others and start working projects
- Learning in action, practice, experience
- Related to my role, part of which involves computational thinking and robotics for learning
- to gain knowledge
- To improve my teaching
- Very useful
- We do not have such work experience, It is necessary to raise the level of education to teach children of a new generation

Question 12: Will you recommend this repository to your colleagues?

When it comes to recommendation of the repository, as one can see in figure 20, only 1.8% stated that they will not recommend this repository, with the rest stating that they will be recommending this to their colleagues.
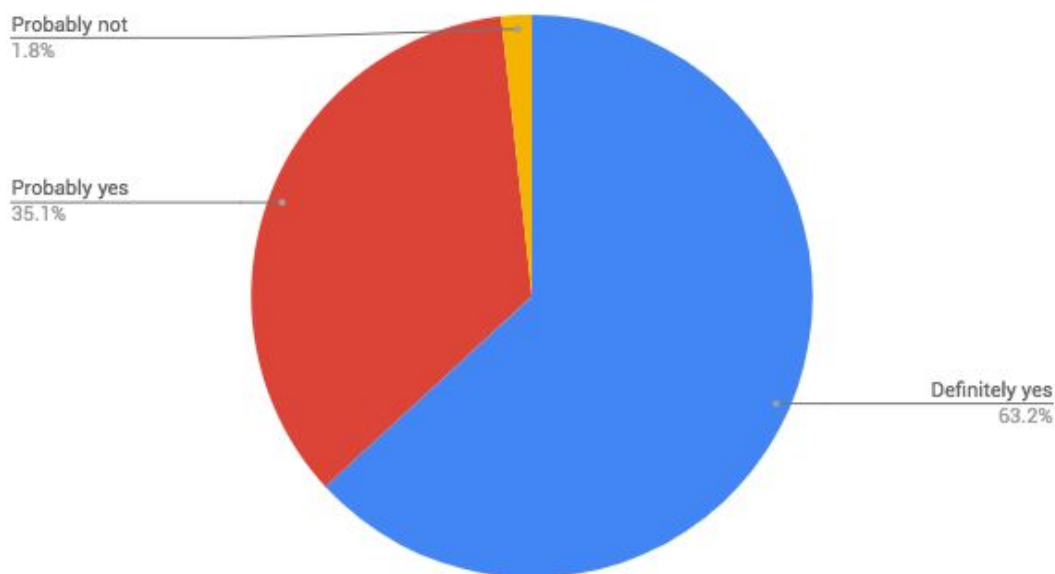

Figure 20: Chart illustrating the results

11 POSITIVE OUTCOMES FROM WEBINARS

All the project partners and the participants were very pleased with the webinars and we also have some very interesting conversations with the teachers who were very engaged and asking questions throughout the webinars thanks to the chat system.

Some of the positive outcomes (some unexpected too!) were the following:

- Reached **over 80 people** during the webinars as direct participants.
- Over **50 teachers** registered and logged in as new users of the repository.
- **200 new contacts** to reach in the future for further exploitation - these were the full list of registrants to both webinars.
- A participant (Cihan Emre ŞAHİN) offered to translate the repository in Turkish free of charge and until end of January he has already completed the texts for the database of the repository and all the portal. A Turkish version is already available on the portal. See figure 21.
- Project partners have become more fluent in explaining each outcome of the project and this was seen also since the second webinar they were already more fluid and confident.
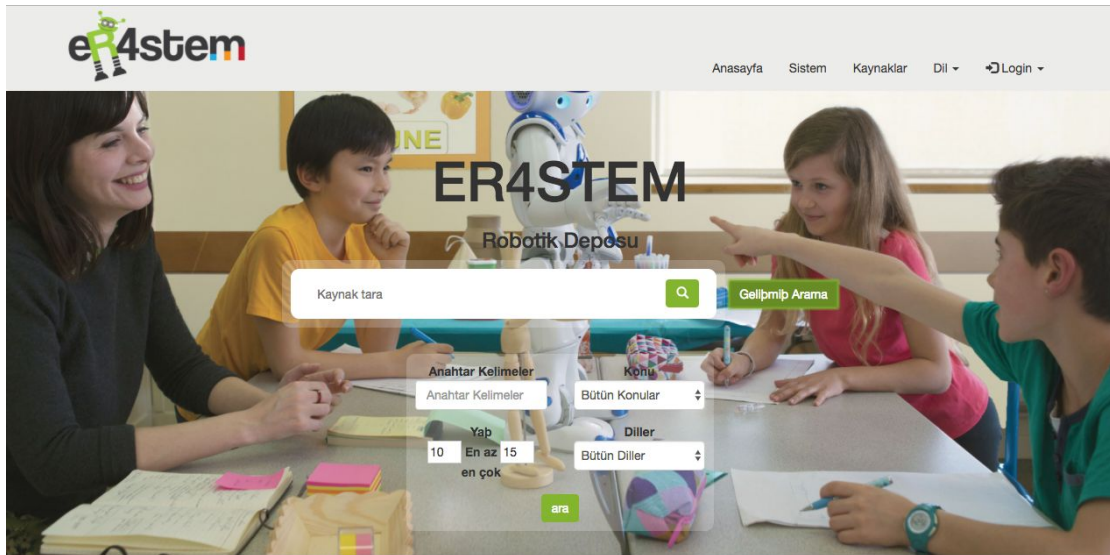- The ER4STEM project has successfully collaborated with SCIENTIX as a win-win relationship.

Figure 21: ER4STEM repository in Turkish

12 CONCLUSIONS

This deliverable has described the preparation, marketing, implementation and evaluation process of the webinars done in relation to the ER4STEM repository.

We have reached out to many more teachers and SCIENTIX ambassadors than we originally thought possible and we have now a new direct community of teachers that are engaged with us into using our online repository and our educational resources (activity plans and framework). The webinar was an effective method to ensure the direct collaboration from the teaching community and we have new online users registered in our portal.

The fact that we will be implementing a whole new language of the repository thanks to one of the webinar participants is a resounding success and this will help spread the word to more countries in Europe.

The collaboration with SCIENTIX is crucial for ER4STEM as it is a win-win proposition where our project is creating interesting results and educational resources that the SCIENTIX community really needs. This was the perfect example where complete open discussion and assistance was given from both sides and it made the workshops a success.

ER4STEM partners are considering using additional webinars in the future once we have more results in the project as we enter into this last and final stretch since as a medium can be both cost and time effective. Finally this report serves as a "best practice" suggestion also to other projects that would like to hold webinars in order to reach their target groups.

13 GLOSSARY / ABBREVIATIONS

ER4STEM   Educational Robotics for STEM

SCIENTIX   The community for science education in Europe

WP   Workpackage

SPW   Science Project Workshop

EUN   European Schoolnet