

Algorithmic Thinking for Migrants Teachers Education

2021-1-EL01-KA210-ADU-000035033

Country Report, Greece

Evaluation of the Pilot Training

Organizer: LabSTEM, Greece

Venue: Kamena Vourla, Greece

Date: Friday, 02/09/2022

Time: 08:30-14:30

A. Introduction

The pilot training was conducted at Kamena Vourla (Mitsis Hotel, VIP Room) on Friday 2nd of September 2022 from 08:30 to 14:30. In total, 16 adult migrants/refugees trainers participated. All of them are currently working as trainers for SolidarityNow NGO. SolidarityNow is the biggest NGO in Greece that is dealing with refugees and immigrants. They are taking care of the living conditions, access to labour market and of course the training issues. LabSTEM invited SolidarityNow staff to participate in the pilot training because they are experienced enough regarding intercultural education. The training was organized and conducted face-to-face.

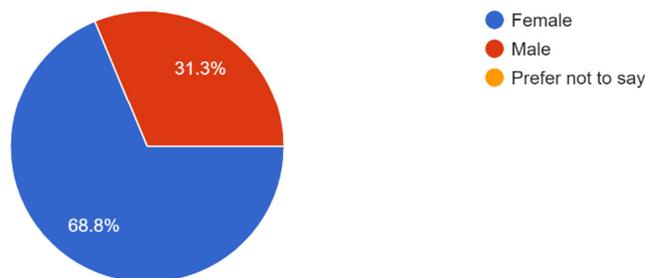
B. Evaluation Results

B.1 Personal Information

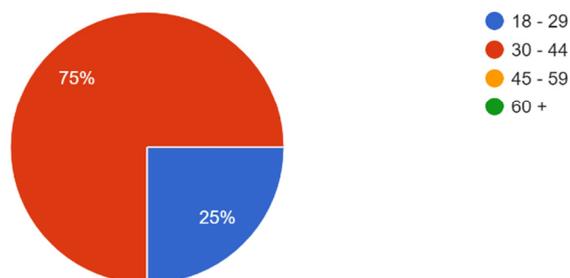
11 of the participants are female (68,8%) while 5 are male (31,2%). Another important piece of information is that the majority of participants are young with 25% (4 teachers) being less than 29 years old, while the rest 75% (12 teachers) are between 30 and 44 years old. Half of them are University degree holders while 37.5% (6 teachers) are Master's degree holders. The rest 2 teachers are just graduated from High School (they are still studying at the University). In conclusion, as far as the teaching experience is concerned, 31,3% of them have less than 3 years, 12,5% between 3-5, 37,5% between 5-10 and 18,8% between 10-20.

Below, there are listed the associated graphs.

Gender
16 responses

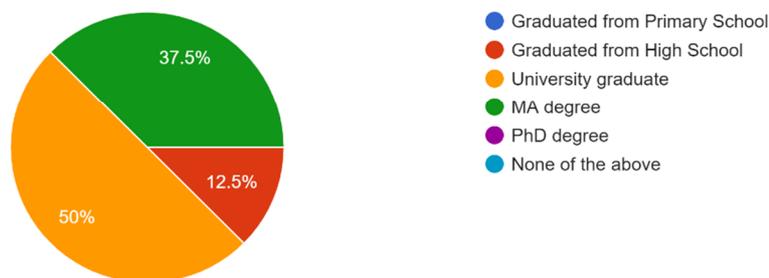


Age
16 responses



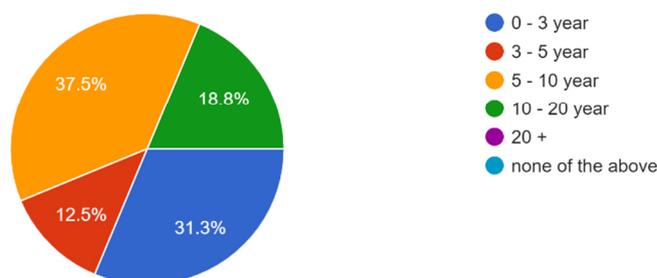
level of Education

16 responses



Experience in teaching

16 responses



B.2 Evaluation of the training lessons

(Q1) The majority of participants (81,25%) totally agree and agree that the lesson's structure was logical. The rest 18,75% is Indecisive. (Q2) The 68.75% of participants agree that the information provided in the lessons was appropriate, useful and relevant, 6.25% totally agree while the rest 18.75% is indecisive again. (Q3) The objectives of the lessons were clearly formulated, totally agreed and agreed the 68.25% of the participants while the 31.25% stated that are indecisive. (Q4) The 87.5% stated that understood the content of the training session while 12.5% was indecisive. (Q5) 81.25% of participants totally agreed and agreed that the lessons covered enough material and they are satisfied with what they learned, 12.5% was indecisive while 6.25% disagreed.

The next question (Q6) has a special interest because almost half of the participants totally agreed and agreed that the information provided by the lessons has an impact on that as a teacher, 25% was indecisive while the rest 18.75% disagreed with that question. (Q7) The 43.75% of participants was indecisive when they asked if the course content was easy to follow, 37.5% agreed with that while 18.75% totally agreed.

The next question (Q8) is also interesting because 62.5% of the participants totally agree and agree that the information provided in the lessons changed their thinking about algorithmic thinking and/or intercultural education, 12.5% disagree while the rest 25% is indecisive. (Q9) The majority of the participants totally agree and agree that the information provided on the Learning Platform is useful for future innovations in teaching about intercultural education, 18.75% is indecisive while the rest 6.25% disagree.

(Q10) Half of the participants agree and totally agree that they learned how to successfully implement algorithmic-related activities in the classroom, 6.25% disagree while that rest 43.75% is indecisive.

(Q11) The majority of participants (81.25%) are more open to the idea of using algorithmic thinking as an educational tool while 18.75% is indecisive.

(Q 12) In your opinion, which topic/s and content/s should be added or improved?

Below are listed participants' comments on the above question. After a deep comments review, we concluded that participants asked for more practical issues. Specifically, they suggest adding more hands-on activities and examples.

List of comments

- i suggest more practical activities should be added
- more practical content should be added
- more case scenarios, examples, practical implementation
- Ίσως μια προσαρμογή όλων των πληροφοριών στις ανάγκες των προσφύγων. Μια καλύτερη διερεύνηση της ζωής τους εδώ και τι πραγματικά θα τους βοηθούσε
- I would like a few more hands-on examples and practice regarding the subjects that were presented
- Algorithmic activities about everyday habits
- In my opinion I personally believe that more examples should be added in the topic of algorithmic
- I believe that it should be added more simple examples and hands-on laboratories
- περισσότερες δράσεις/παραδείγματα για μέσα στην τάξη
- βιωματικές δραστηριότητες
- Γενικότερα στους μαθητές των δομών έχει αποτέλεσμα να γίνονται πρακτικές δράσεις
- θα ήταν χρήσιμο αν υπήρχαν περισσότερα παραδείγματα για την χρήση της αλγοριθμικής σκέψης στο μάθημα. Επίσης θα ήταν καλό να υπήρχαν περισσότερες ασκήσεις για να κάνουμε
- probably the seminar should have more practical examples and exercises
- making the training more practical with hands on activities
- I would like to inform me more how to implement the algorithmic activities in the classroom with refugee background

- Υπολογιστική σκέψη με βιωματικό τρόπο ώστε να κατανοήσω καλύτερα το περιεχόμενο

(Q 13) What do you consider the most valuable thing you learned throughout the lessons?

Considering participants' comments, we conclude that the majority of them realized the importance of algorithms in real-life problems. Beyond the way of improving their work in the classroom, teachers believe that algorithmic thinking could be applied and help refugees to incorporate into the local community.

List of comments

- I have learned that algorithmic thinking can be implemented in everyday problems and decisions
- that this kind of thinking could be useful also in teaching other subjects than maths
- that AT can be a useful tool not only on my lone of work but also on my everyday life
- Ότι η υπολογιστική σκέψη δεν πρέπει να μας τρομάζει και μπορούμε κάλλιστα να τη διδάξουμε και στα παιδιά, διότι είναι μια δεξιότητα αναγκαία
- I had no former experience regarding AT, so overall I think it was a very helpful introduction. I can definitely see myself implementing more AT based teaching ideas in the future
- AT at every aspect of our life with examples
- I believe that the most valuable thing I learnt, today, is that everything in our life depends on an algorithmic program
- how somebody as a teacher can cultivate the AT to refugee children
- Το γεγονός ότι ο αλγόριθμος και η αλγοριθμική σκέψη μπορεί να βελτιώσει την καθημερινότητα των παιδιών με μεταναστευτικό πλαίσιο
- Οι ενότητες για την ταξινόμηση και την αφαίρεση
- the discussion and the steps of logical thinking
- About the AT and how it could be added at the education plan
- I learned about algorithmic activities and how I can think so that to reach to the true result
- Την αξία της υπολογιστικής σκέψης στην επίλυση προβλημάτων
- Να αρχίσω να σκέφτομαι λογικά και να θυμηθώ πράξεις

Please rate the following questions as to the following: 1. Totally disagree 2. Disagree 3. Indecisive 4. Agree 5. Totally agree

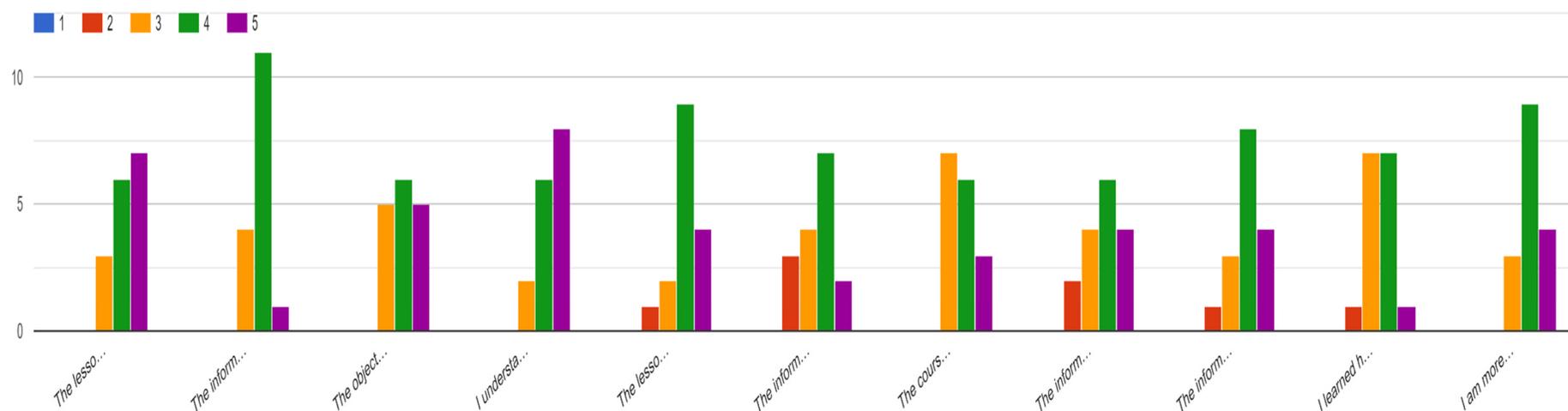


Figure 1 Evaluation of the training lessons

B.3 Evaluation of the training activities

Here is participants evaluation about the training procedure. (Q1) Half of the participants totally agree (50%), (Q2-3) 43.75% agree that the training duration was adequate, while 6.25% is indecisive. 68.75% totally agree and agree that (a) Information provided during the training was clear enough and (b) are satisfied with their work flow during the training. Almost 1/3 remain indecisive. (Q4) The 56.25% of the participants totally agree and agree when they were asked *“Thanks to the training I was able to achieve relevant results for the future”*, 37.5% is indecisive while the 6.25% disagree. (Q5) The majority 87.5% believes that the time allocated for the training was sufficient, while the 12.5% is indecisive. (Q6) The majority 81.25% believes that the electronic media used facilitated their learning and understanding, while the 18.75% is indecisive. (Q7) Also, the majority 81.75% agree and totally agree that the methods of delivering the content were appropriate for this training, while the 18.75% is indecisive. (Q8) 75% agree and totally agree that the methods used by the presenter made the content clear and easy to understand, 18.75% is indecisive while the rest 6.25% disagree. (Q9) 87.5% agree and totally agree that the equipment and online platform provided a good learning environment, 6.25% is indecisive while the rest 6.25% disagree. (Q10) Half of the participants believe that the assessment checks the correct knowledge and skills while the other half is indecisive. (Q11) 87.5% agree and totally agree that proposed activities encourage participation while the rest 12.5% disagree. (Q12) 68.75% agree and totally agree that the proposed activities raise the quality of teaching while 31.25% is indecisive.

13. What were the strengths in the training?

List of comments:

- the participants had the opportunity to work in groups and discuss the activities
- the simple and understandable presentation
- The content was easy to understand
- The training allowed the participation and cooperation
- Η πολύ καλή γνώση του αντικείμενου από τον εκπαιδευτή και η αίσθηση εμπιστοσύνης και οικειότητας που δημιουργήθηκε
- informative, well sorted, organized and implemented good duration
- the examples of AT through our everyday activities
- the strength was the introduction because from the first minutes you could understand easily the topic

- the introduction was enough good so us to understand the content of the seminar. Also, from this seminar you can combine different knowledge areas
- οι ασκήσεις που μας εμπλέκουν στην διαδικασία και βοηθούν στην κατανόηση
- απλή και άμεση παρουσίαση του θεωρητικού πλαισίου
- the exercises linked with theory
- well organized all the thematics of the seminar
- the presentation
- the methods used by instructor made the content clear and easy to understand
- οι συζητήσεις και οι ασκήσεις
- Ο τρόπος παρουσίασης και τα παραδείγματα κατανόησης

14. What were the weaknesses in the training?

List of comments:

- it requires knowledge in maths and sometimes it was difficult for teachers to follow the activities
- I needed more case scenarios regarding teaching
- Too theoretical. I needed more practical implementation and examples. Maybe more case-scenarios so that we could work with each other
- Ίσως περισσότερα παραδείγματα τα οποία θα μπορούσα να χρησιμοποιήσω στη διδασκαλία
- I would like more activities/ interactive character
- sometimes it is difficult for everyone to understand the basic steps of making an AT in order to solve a problem
- the weaknesses in the training are the examples, because some of them are misunderstanding for some people
- it should have more examples and biomatiac laboratories
- προσωπικά αφαιρέθηκα σε αρκετά σημεία (συχνό μου πρόβλημα) οπότε ίσως μια πιο διαδραστική διάλεξη
- λίγες δράσεις που να εμπλέκουν τους συμμετέχοντες
- I believe that for educators without a science background was a bit difficult
- I would prefer to know more about the using of this seminar to the intercultural education
- κάποια σημεία της παρουσίασης δεν γινόταν πάντα η σύνδεση με την χρησιμότητα στην τάξη
- Για εκπαιδευτικούς που δεν έχουν σχέση με τις θετικές επιστήμες χρειάζονται περισσότερα παραδείγματα και εξάσκηση στην υπολογιστική σκέψη

15. How could we have improved your training experience?

List of comments:

- by using technological equipment so that we could use AT in practice
- I would like to be able to get involved in a more practical way regarding teaching
- I would like it to be more teaching - relevant so that I can apply the AT in class

- more practicing methods and more iconic examples of solutions through AT
- I believe that more seminars should be organized and also, they should include more practice and less theory
- people should participate more during the seminar
- Με περισσότερη διαδραστικότητα και ίσως προβολή ήδη γινομένων παραδειγμάτων
- περισσότερα παραδείγματα και συμμετοχή στην εκπαιδευόμενη
- could have more focus in how to teach this
- with more participation of the students and more work
- by using easier examples
- next time, I would like to know step by step techniques of this seminar to the intercultural school
- Ίσως θα χρησίμευε να γινόταν περισσότερες ερωτήσεις και συζητήσεις μεταξύ των συμμετεχόντων
- βιωματική προσέγγιση

Please rate the following questions as to the following: 1. Totally disagree 2. Disagree 3. Indecisive 4. Agree 5. Totally agree

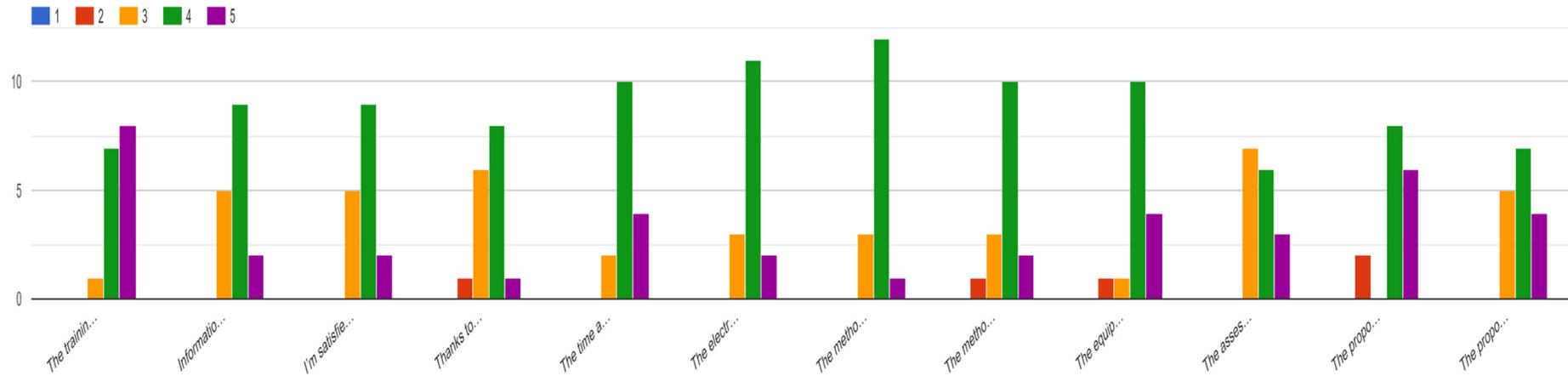


Figure 2 Evaluation of the pilot training

C. Conclusion

Almost all of the participants wrote down a significant comment. The evaluation is really very realistic and depicts the training reaction. We definitely have to take into account those comments and improve the material. Digging into questionnaire details, we see that participants are relatively young teachers aged less than 44 years old without great working experience (less than 10 years of teaching experience). Despite their young profile, they found Algorithmic Thinking as a teaching approach that could not necessarily help their work in the classroom. They asked for more examples in order to be able of utilizing Algorithmic Thinking in classroom and beyond.

Especially, teachers who are not so familiar with computer science came into training with a prejudice that they don't need or can't cope with algorithms. The happy reveal is that they realized that algorithms are everywhere and that they could be trained more deeply and disseminate this knowledge to refugees.

In conclusion, this was a very productive and fruitful training seminar where we had the chance to pilot the productive learning material and from the other side, participating teachers opened a window to this innovative topic called Algorithmic Thinking.