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TEACHER AWARD 2018 WINNERS

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2018

Welcome

The LEGO® Education Teacher Award is a celebration of innovative elementary and middle school STEM teaching using LEGO bricks around the world - the more creative, inventive and inspiring, the better! The winners were chosen based on their application with examples of lesson materials, their self-evaluation and biography and evidence of contribution to the local teacher community. The 2018 winners were invited to attend the LEGO Education Teacher Symposium and the Tufts STEM Education Conference at Tufts University in Boston, USA in June 2018.

2018 Teacher Award Winners

1. Ms. Claudia Inés Parise ..... Argentina
2. Ms. Jess Schofield ..... Australia
3. Mr. Jin XIANG ..... China
4. Ms. Juanyan LI ..... China
5. Ms. Yi CHENG ..... China
6. Ms. You CHEN ..... China
7. Mr. Pedro Fonseca Solano ..... Costa Rica
8. Ms. Triinu Grossmann ..... Estonia
9. Ms. Maria Kouklatzidou ..... Greece
10. Ms. Elena Liliana Vitti ..... Italy
11. Mr. Michio Kobayashi ..... Japan
12. Mr. Tatsumi Sumi ..... Japan
13. Ms. Ji-Yeon Hong ..... Korea
14. Mr. Min Su Cho ..... Korea
15. Mr. Menno Kolk ..... Netherlands
16. Ms. Jill Pears ..... New Zealand
17. Ms. Carmen Rosa Cohaila Quispe ..... Peru
18. Mr. Nikolai Kotokonov ..... Russia
19. Ms. Natalya Marchenko ..... Russia
20. Mr. Andrei Shein ..... Russia
21. Ms. Larisa Chukhil ..... Russia
22. Ms. Elena Podryadova ..... Russia
23. Ms. Yana Petukhova ..... Russia
24. Ms. Marina Naumova ..... Russia
25. Mr. Chris Wilde ..... U.K.
26. Ms. Lana Pereira ..... U.S.A.
27. Mr. Joe Moseley ..... U.S.A.

Claudia Inés Parise

Country	Argentina
School	Villa Devoto School
School size	828
Subjects / segment taught	Kindergarten (K5)
Number of years teaching	23

> *I strongly believe that children should always be the real protagonists of their own learning processes. I foster a welcoming and engaging environment where children are invited to create, think, ask, enjoy, try, make mistakes, learn from them and feel the motivation to learn more. I also think that "hands on" experience should go along with inviting kids to go over their own learning processes and setting new challenges.*

Kindergarten bilingual teacher as well as Physical Education Teacher. Currently doing a university degree in Management of Educational Institutions. I have been working at Villa Devoto School, which is a very prestigious bilingual school in Argentina, for 10 years. I have also gained important and enriching work experience in another prestigious and renowned institution, Northlands School. An educator, a life-long learner, an inquisitive mind, eager for knowledge and intellectually curious. That is me. That is what I do. That is who I am.

I see LEGO brick as a useful tool in education for a number of reasons:

1) it combines knowledge from different areas

2) it places the teacher in the role of facilitator of learning

3) kids are in charge of their own learning processes and learn collaboratively with peers.

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Jess Schofield

Country	Australia
School	Injune P-10 State School
School size	80
Subjects / segment taught	Maths, Robotics and Technologies
Number of years teaching	2 years
Email	jrsch2@eq.edu.au

“Education is about building relationships with students to spark in them a desire to learn new knowledge, skills and habits. I endeavour to teach through practical experiences and allowing the students‘ creativity to guide the learning progression.

Jess works in a small school in outback Queensland and teaches a range of students from prep year to year 10. She began using LEGO products with students through a school outreach role at university. This valuable experience built skills in the teaching of STEM areas. In 2018, she has begun pioneering “STEAM” and “Robotics” as stand-alone courses at Injune State School.

Using the LEGO brick in the classroom allows a learning environment where students can build teamwork and practical problem solving skills. The flexible resources can be used to enhance learning and engage students across a range of subject areas.

Jin Xiang

Country	China
School	Xi'an Jiaotong University Primary School
School size	4500
Subjects / segment taught	Information Technology
Number of years teaching	24 years
Email	xiangjin@xjtu.edu.cn

“- Education is to support children to become themselves, not the ones we expect them to become.

- Children need to learn from real world.

- STEM education develops our way of thinking and doing, in addtion to integration of subjects.

Senior teacher of elementary school. Host of Maker Space in Xi‘an. Secretary General of Robotics Creative Education Committee of Shaanxi Provincial Society of Education. Specializes in Maker Education, STEAM Education, Robotic Education, Visible thinking and controllable uncertain teaching and evaluation, etc.

LEGO bricks is a good vehicle for modular creative education because it provides an easy access in technology, a variety of possibilities in creatives, and the attention to process and collaboration in addition to outputs.

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Juanyan Li

Country	China
School	Jiaxing Experimental Primary School
School size	4400
Subjects / segment taught	Information Technology
Number of years teaching	10 years
Email	232413234@qq.com

"I have guided students to try boldly to improve and solve practical problems through independent exploration and cooperative discussion along the way.

An information technology teacher of Jiaxing Experimental Primary School. With the idea of "classroom linking life, classroom promoting life", some achievements have been made in her teaching. She has a 10-year long experience in IT teaching, from the IT club (12students at most) teaching to the routine teaching (more than 40 students per class), she has gradually found out her own teaching style, and worked out the Jiaxing Experimental Primary School EV3 robot course outline.

Lego should be used in primary school education. With it, students' creative thinking, handling skills, cooperative ability and computational thinking can all be well-stimulated and it will also make the class lively and interesting.

Yi CHENG

Country	China
School	National Institute of Education Sciences Fengtai Experimental School
School size	more than 2000 students
Subjects / segment taught	STEM & English Grade 5 & Grade 6
Number of years teaching	20 years
Email	chengyi110522@139.com

"Give the kids a chance, to give us a big surprise!

I started working in 1999. I have taught Chinese, Math, English, Computer, etc. Although I am a newcomer in STEAM, I think I am good at it. And I have fallen in love with this subject now.

The LEGO bricks help the kids to find the problem and solve the problem on their own. The kids understand that the triangle is the most stable shape, and they know how to use LEGO bricks to measure the circumference of a circle, and so on. They know more about their world, and they want to do something for the world. It's amazing to be their teacher!

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You Chen

Country	China
School	Shanghai World Foreign Language Primary School
School size	1720
Subjects / segment taught	Science
Number of years teaching	13
Email	orange__uu@hotmail.com

“Being a linker in student‘s learning process, support them with professional guidances.

I am a bilingual science teacher, working in Shanghai World Foreign Language Primary School. Over the years, I devoted myself to the research on the construction and development of school-based science curriculum. Cooperate with the teachers from Acadia District to develop the science education system in our school which integrates the advantages of Sino-US education. As a speaker attended China Top School Forum and China Star Teacher Forum , deliver the speech of “Every school can do STEM”. In 2017, as one of the author published an academic book named “The Practical Approaches of STEM education in Primary School”.

The connection of life experiences, previous knowledge, lego bricks ,classroom friendly software, results in the fully engagement of students’ learning activity. while using lego bricks to turn ideas into tangible subjects, children simultaneously construct knowledge in their mind such as how to design , construct, calculate and program by their collaborative working.

Pedro Fonseca Solano

Country	Costa Rica
School	Universidad Nacional
School size	1200
Subjects / segment taught	Robotics and Programming
Number of years teaching	20
Email	pedro.fonseca.solano@una.cr

“Professor of Educational Robotics for 20 years, working with projects in vulnerable communities in Costa Rica.

LEGO is a powerful tool that all teachers should have access to and must learn how to use for help that our students understand the world in a fun way.

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Triinu Grossmann

Country	Estonia
School	Haanja School
School size	67
Subjects / segment taught	Robotics and IT
Number of years teaching	14
Email	triinugrossmann@gmail.com

> *I prefer to teach using project-based methods and to then apply the lessons learned to practical situations. For me it is important to develop student creativity and to enhance their entrepreneurial, collaborative and performing skills using robotics. I like to teach STEAM skills to students using different robotic learning fields and have the students participate in competitions.*

I began as an IT teacher at Haanja School in 2004. We received our first LEGO Mindstorm NXT robots in 2008 and I became a robotics teacher. I currently teach robotics in five schools in Võrumaa and at one youth center. I use the LEGO Mindstorm EV3 and LEGO WeDo 2.0 robots. Every year since 2012 I have participated with my students in a number of competitions - Robotex, FIRST LEGO League, FIRST LEGO League JR., RoboMiku Lahing. I have also teach at workshops for teachers. In 2016 we established an NGO, Nuti-Võlur. The purpose of this NGO is to promote robotics and ICT education in Võru county. For the past three years we have organized a robotic competition in Võrumaa and we conduct robotic summer camps. My current interest is in designing playing fields where robots need to solve multiple challenges.

The LEGO brick is a useful tool in education because it enables the students to be active participants in the learning process. They have to cooperate with each other, seek solutions to problems and present their solutions. The LEGO robots are particularly useful tools for students to learn science, technology, engineering, mathematics and programming.

Maria Kouklatzidou

Country	Greece
School	European School of Brussels III
School size	3000
Subjects / segment taught	Greek language, literature & history, maths, science, arts)
Number of years teaching	13
Email	mkouklatzidou@yahoo.gr

Maria Kouklatzidou is a primary school teacher in public primary education. Her academic background is in Pedagogical studies (BA), Cultural Technology and Communication (BA), Teaching with New Technologies (M.Ed.), Public Administration (MPA), Lifelong Learning (M.A.) and she holds a PhD in Education. Her research interests include ICT in education, robotics, gender studies, adult learning, children's literature and cultural technology. Her professional goal is to engage her students in activities that will help them acquire updated competences and skills. Transforming the class into a research lab is her philosophy and the way she has been working for the last 13 years.

> *You can't build new skills with old methods. So, learning has to follow the technological advances of our time. Learning in a fun way through games and technology is the best way forward!*

Lego bricks enhance the learning approach. Via hands-on activities, experimentations and authentic inquiry the bricks help students live in a creative learning environment. Through interdisciplinary games with Lego students actively engage in their own learning process. By taking up multiple roles, students are expected to solve authentic or real-life problems, think and come up with solutions that contribute towards a qualitative everyday life and constant creativity. Thus, knowledge, learning and the school stop being cut-off from the rest of the world. By investing in the Lego learning approach students get visible, tangible short and long-term results of their efforts.

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Elena Liliana Vitti

Country	Italy
School	I.C. Settimo I – I.C. Settimo II
School size	600 students
Subjects / segment taught	Technology
Number of years teaching	4
Email	elena.vitti@gmail.com

Teacher, Architect, Ph.D. (Bachelor's Degree in Architecture, Master's Degree in Urban Planning, Ph.D. in Environment and Territory).Currently graduating in Education and teaching Technology in Middle School

LEGO tools provide increased motivation and an immediate feedback that allows a continuous correction of errors and assimilation of contents through experience.

> *I use a "Think-Make-Improve" approach, that allows my students to develop their core skills, both on school subjects and social interaction: formulating a solution to a given problem, verifying its accuracy through immediate feedback and using collected data to improve the project. Cornerstones of this method are: motivation, experimentation, resilience.*

Michio Kobayashi

Country	Japan
School	Kanagawa University High School
School size	1,300
Subjects / segment taught	Computer Science in high school
Number of years teaching	32 years
Email	kobaym01@jindai.jp

Biography:

1987-2017 - Kanagawa University High School - computer science teacher

2018 - Promoted to Vice Principal

Awards:

• LEGO Education Lead Teacher (2012-)

• Microsoft Innovative Educator Experts (MIEE) (2016-)

TVs, books, etc:

• Lecturer on national TV program "Society and Information" for high schools (2003-)

• Monthly ICT- related newspaper articles for elementary school children (2016-)

• Co-author of school textbooks – Technology for junior high (2002-) and Information for high school (2003-)

> *• Increase student's self-esteem through "A-ha" moments*
>
> *• Learn today, use tomorrow (Put in practice what you learn)*
>
> *• Tickle students curiosity with intriguing and inspirational lesson contents*

LEGO bricks are effective tools in education! Bringing LEGO bricks into the classroom engages students and boosts their motivation. Not to mention LEGO robots (EV3) with the precise sensors! (especially compared to the precision of similar products). With its ease of trial and error both in designing and programming models, students can explore cause and effect.

It is definitely a great solution to naturally enhance student's creativity and problem solving skills.

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Tatsumi Sumi

Country	Japan
School	Elementary School attached to University of Tsukuba
School size	800
Subjects / segment taught	All subjects in elementary
Number of years teaching	25 years
Email	tasumi@elementary-s.tsukuba.ac.jp

> *Enjoying school and study is the key factor for students to overcome anything*
>
> *Let students find fun in everything through their activities*

Biography:

1988-1992 Worked as a software developer

1992- Became an elementary school teacher (majoring in science)

- Editorial committee member of the elementary school science textbooks

- Vice Chairman of the Japan Elementary Science

- Education Study Group

- Part-time professor at Tsukuba University

Books, etc:

Published several books about elementary science.

LEGO brick as a useful tool in educationTeaching resource which enable children to do trial and error, and nurture their creativity and logical thinking.

Ji-Yeon Hong

Country	Korea
School	Hanter Elementary School
School size	about 300
Subjects / segment taught	Science and practical course, 5-6th grade
Number of years teaching	14 years
Email	rosini82@hanmail.net

> Learning as a pleasure itself
>
> Learning that matches student's life
>
> Learning to make student's imagination a reality

I am interested in education that helps students live well in the era of the Fourth Industrial Revolution. I have published books on coding education that fosters computational thinking.

I think that the Lego Brick is an educational tool that stimulates students' infinite imagination. Also it is a valuable educational tool that makes imagination a reality.

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Min Su Cho

Country	South Korea
School	Buandoong Elementary School
School size	776
Subjects / segment taught	Elementary School Teacher
Number of years teaching	8 years
Email	mercybien@naver.com

I want to teach both intelligence and building an upright character to my student. It needs various experience. I think that Robot education is Motivation for learning.

2014-2018 Jeonju University of Education SW Gifted Student teacher.

2015 “Software world that thinks in order” book writing with coteacher.

2014 / 2016 / 2017 FLL Robotics National Competition Judge.

I think ev3 is a pencil. As you can imagine, you can draw on the canvas, and when you want to fix the picture, you can erase it with the eraser and draw the picture again. Sensors and motors are color pencils that can be applied in various colors. Students can become future painters through ev3.

Menno Kolk

Country	Netherlands
School	CBS de Flambouw
School size	100
Subjects / segment taught	Primary Education – all subjects
Number of years teaching	8
Email	info@mennokolk.com

How can I use Lego every week in all my lessons? With this question I have been challenging myself, other teachers and students and called it the #legobrickchallenge which you can see at bit.ly/legoteacher.

I started teaching in 2010 and since 2014 I work at CBS de Flambouw. Since then my enthousiasm has brought me more inspiring tasks and jobs. I also work for other schools as a trainer and by making policy and courses for teachers to adopt technology, 21st century skills and MakerEd in education.

Lego helps me and my children to fantasize when we are building on stories. It is amazing to see how easy children start to write on a story when using Lego. Building objects (f.e. diagrams) and structures helps children understanding the theory I am trying to explain. The Lego brick also helps teachers to ask questions which help children to learn on their own level of competence. Using Lego is not only fun, but also makes learning more easy.

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Jill Pears

Country	New Zealand
School	Diamond Harbour School
School size	150 students
Subjects / segment taught	Teaching all subjects to keep in touch wtih theclassroom – specialist teaching of technolog and robotics/coding
Number of years teaching	17 years
Email	jill.pears@gmail.com or jill.pears@diamondharbour.school.nz

I believe in a school environment where- All our learners are valued members of our community;- The environment (physical and social) is one that empowers all community members to learn- Innovation, creativity, grit, optimism, gratitude and kindness flourish

Jill's first career was as a classical pianist. Jill then caught the 'teaching bug' when being 'parent help' in her children's junior classrooms. She has taught in both independant and state schools, girls only and co-ed and primary and secondary. Jill is incredibly passionate about educational robotics using Lego Mindstorms, runs robotics competitions and is compleing a Doctorate of Education on the role of educational robotics in increasing girls' interest in STEM subjects. Jill is currently Principal of a semi-rural school, situated looking over the beautiful Lyttelton Harbour, Christchurch, New Zealand.

Lego is an incredibly useful tool in education due to its versatile nature - the way in which it can be used only being limited by one's imagination. The open-ended nature of Lego means its use, is not defined by its form, and as such it fosters innovation, creativity and learning. A box of Lego invites people to build, create, share and communicate. Lego can be used across all curriculum areas: literacy, mathematics, technology, science, music and art - providing hands-on learning experiences that are engaging and meaningful. Ageless and timeless - I regard Lego as an essential part of a classroom environment.

Carmen Rosa Cohaila Quispe

Country	Peru
School	I.E. Coronel Justo Arias y Araguez
School size	130 students
Subjects / segment taught	Students from 6 to 10 years old, all areas (Communication, Mathematics, Science and Technology, Robotics, Art, Social Personnel, Religious Formation)
Number of years teaching	27
Email	kamuchitabonita@gmail.com

My name is Carmen Rosa Cohaila Quispe, I am a Primary Education Teacher with 27 years of service to the Ministry of Education. I have worked in the educational institutions Neiser Llacsa Arce (rural area) and Justo Arias and Araguez in the district of Pocollay. During the last 17 years I have worked with Innovative Technology Projects - Information and Communication Technology (ICT) specifically with ROBOTICA LEGO WeDo and this year with StoryStarter. I have beennominated as Educational Teacher in Educational Robotics of the Ministry of Education-Peru. As a result of this work, I was the winner of the ECE 2015 Census Test for Students, which resulted in a 100% reading comprehension. The years 2016-2017 were part of the Regional Pedagogic Support Team of Tacna-Peru. The year 2016 finalist level Peru in Lego Education Teachers Award Lam. The year 2017 represents the Region of Tacna-Peru as WINNER MASTER THAT LEAVES TRAIL 2017. Competition that rewards the teacher who dominates the topics of his specialty and manages to find the best way to teach, as he knows very well your students.

The National Curriculum for Basic Education of the Ministry of Education-Peru, in the area of Science and Technology in Competition No. 3, says: It designs and builds technological solutions to solve problems of its environment and specifies its capabilities.

LEGO EDUCATION, the lego bricks are a very important and necessary resource that the teacher uses to incorporate and develop their learning sessions. Through the game the students will develop skills which will allow them to communicate orally (explain) putting into practice the creative and critical weighing, reading (comprehending written texts), writing / producing texts), when working actively in the creation of learning scenarios through graphics, scenes, objects, chrismas, characters, dialogues, plot lines with exciting action or intrigue, predetermined principles and endings, temporary lines and chained events.

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Nikolai Kotokonov

Country	Russia
School	Municipal General Education School – Kystatyam School
School size	50
Subjects / segment taught	Secondary special education, afterschool education teacher.
Number of years teaching	4
Email	kotokon86@mail.ru

> *Teaching Guidelines "Traditions of the North in Robotics" can be very efficiently used to train engineering workforce from an early age. The children use LEGO bricks to create prototypes of devices which, if implemented in real life, could greatly facilitate the parents' labor. Unlike other inventions, the designs are unique, original because the children try to automate the traditional technologies of their people.*

I was born in 1986 in the village of Orosu, Verkhnevilyuysk district, the Republic of Sakha (Yakutia). In 2004, I graduated from the Verkhnevilyuysk Alekseev Republican Gymnasium. After serving in the Russian army in 2007, I entered Ammosov North-Eastern Federal University to major in Radiophysics and Electronics. In 2009, I got married. In September 2014, my whole family moved to the village of Kystatyam Zhigansk district of the Republic of Sakha (Yakutia) to work under the housing program for teachers in the Arctic and northern regions of the republic. My wife, Tuyara Kotokonova, works as a physics and informatics teacher under this program. With my technical education I was also employed as an afterschool education teacher. Thus my pedagogical career began.

When I began working as the head of the robotics after-school class it was very difficult to find my bearings, to set the direction for progress on the subject, to opt for methods to rely on. Absence of Internet, teaching guidelines, teaching aids only worsened the situation. Without thinking twice, we set out to participate in the republican competitions Robofest-Yakutsk-2015 and the organizers of the event, the MCA NEFU, held an individual seminar on training in robotics for me.

Natalya Marchenko

Country	Russia
School	Municipal General Education School – Ursk Secondary Comprehensive School
School size	250
Subjects / segment taught	informatics and mathematics
Number of years teaching	15
Email	marchenkona1975@gmail.com

I was born on 1 January 1976 in Novozybkov, Bryansk Oblast. Since 1996 I have lived and worked in Ursk, a small town adjacent to the taiga in Kemerovo region. I am a mother of many children. I am a university graduate with a major in system programming and applied mathematics (specialist, Kemerovo State University) and hold a diploma with distinction in pedagogy (specialist, Kemerovo State University). This is my 16th year as an informatics and mathematics teaching. I have won a number of all-Russian and on-site regional IT competitions, such as: Best Personal Design of Event for Teaching Youth the Basics of Programming or Career Guidance in IT; Educational Potential of Russia; My Best Presentation; Kemerovo Oblast Informatics Teacher Award; Pedagogical Talents of Kuzbass; 21st Century IT Teacher in Kuzbass; and many others.

> *In classroom I use active learning methods to engage students in productive, creative and exploring activities. Doing this I rely on a number of principles, such as individualization, flexibility, cooperation.*

Together with volunteer students we hold robotics awareness events offering hands-on, developmental activities outside the school. The facilities hosting these events include a pre-school and a social rehabilitation center for adolescents.

For such events we use LEGO Education WeDo and LEGO MINDSTORMS Education EV3 sets. The activities are attended by preschoolers and handicapped children.

The events contribute to improvement of fine motor skills, attention span, self-care skills, offer valuable experience in teamwork, creativity. The children explore modern technologies of engineering, programming and robotics application.

The volunteers also benefit as the events develop their communicative skills, accountability, creative thinking and managerial skills.

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Andrei Shein

Country	Russia
School	Municipal State Educational Institution -- Bykovo Comprehensive Secondary School named after Djurko
School size	90
Subjects / segment taught	maths, informatics
Number of years teaching	6 years
Email	mashin372@yandex.ru

“In classroom, we use LEGO WeDo to explore the real world, immersing ourselves in the origins of mechanisms while using a single LEGO WeDo set without additional elements. We implement exciting ideas, learn about simple and complex machines, some characteristics of the machine and even create walking robots.

In 2013, I completed refresher courses at Altai State Pedagogical University. The courses were on “Application of robotics elements in educational process in the context of the requirements of Federal State Education Standards”. Since 2013 I‘ve used LEGO Education WeDO to conduct a school Robotics course for Grades 1-5. My students and myself take part in robotics competitions becoming winners in municipal & regional levels.

My work is focused on studying robotics through knowledge of mechanics. Using the book LEGO Technic Tora no Maki by ISOGAWA Yoshihito, we kept creating, improving, honing our builds. In 2017, I put together all my implemented ideas to issue a practical guide titled Mechanical Engineering & Robotics. The guide was to connect theory and practice, mechanisms and models. An example from the book: The Russian mathematician Chebyshev created the world’s first walking mechanism using “wood and iron” and called it the Treading Machine. Well, we made a model of this machine using LEGO bricks from a single set of LEGO Education WeDo, and called it the Tuzik Dog.

The material can be used to set up research and project activities.

Larisa Chukhil

Country	Russia
School	Municipal State Educational Institution – School №1557 of Moscow
School size	200
Subjects / segment taught	maths
Number of years teaching	24 years

“Being maths teachers first of all I started using LEGO resources on this subject with my Elementary students.

LEGO bricks are just one of instruments which can be used for studying maths of course. Coz math is all around us. But LEGO is absolutely great in getting children learn many maths concepts: coordinates on a surface, symmetry, plans & maps, squares & perimeters, geometry basics, fractions and many others. And taking into account that children love LEGO so much I don’t know more effective maths studying instrument in Elementary.

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Elena Podryadova

Country	Russia
School	Municipal Pre-School General Education Institution School - Kindergarten Devision No. 17 “Smile”, Town of Trekhgorny, Chelyabinsk region
School size	260
Subjects / segment taught	preschool (6+)
Number of years teaching	12
Email	lena.podryadova.86@mail.ru

“For as many as 5 years I have taught LEGOs in the kindergarten. I am focused on making the building experiences more understandable, simple and productive for little preschoolers. On filling these activities with lots of positive emotions and achieving all expected educational goals and objectives.

I am 32. For 12 years I have been working as a teacher in a kindergarten, and quite recently have become a LEGO teacher. I’ve never even dreamed of teaching but it turned out to be my vocation and passion.
I graduated from Chelyabinsk Pedagogical University as a psychology major. I have two wonderful children: son Alexander (10 y. o.) and daughter Isabella (5 y. o.). Just like their mother they enjoy doing LEGO activities. We also like spending time out in nature as a family.

I propose to build using matrices. They are like charts incorporating coded LEGO elements for some structure. A child looks at a chart, selects required elements and on its own builds a structure shown in the figure. Thus, a child learns to read charts. A chart guides children in selection of proper elements by shape, color and quantity so that a number of further educational objectives is met. As the charts get more sophisticated, they offer a view of correct arrangement of elements – 2D and 3D orientation (older pre-school age). A chart may incorporate coded structures related to a variety of themes and implemented in 2D or 3D. The charts provide for 2 types of activities: building with reference to a chart; filling an empty chart with the elements of a structure.

Yana Petukhova

Country	Russia
School	Municipal Secondary School No. 4, Angarsk, Irkutsk Oblast
School size	1444 students
Subjects / segment taught	elementary school, informatics
Number of years teaching	14
Email	yanavikpet@mail.ru

I am 35. I’ve been working as an informatics teacher for 14 years. By training my parents are nowhere near to the teaching profession. The desire to be a teacher came to me unnoticeably. At first, there was a passion for exact sciences, and then I had a chance to explain things to my classmates. After school, when the time was right, I entered the faculty of mathematics, physics and informatics. On graduating from Irkutsk State Pedagogical University, I came to work in a technical college, and three years ago I started working in a secondary school.
I have two daughters: ten-year-old Stefania and five-year-old Zlata. My family’s favorite pastimes are very diverse to include traveling, fishing, music.

“For as many as three years I’ve been an active participant in the Angarsk Robotics movement, where I develop a single methodological base with like-minded authors. One initial step was creation and implementation of the authorial program Building & Robotics incorporating a system of project-based, student-focused activities for each age category and compliant with the program of spiritual and moral upbringing and development named MyFamily.

The designed system of activities was named “4+”, as we add a new stage called Experiment to the original 4C stages. At the stage of Experiment a learner can answer the question: “What if ...?”. The Experiment stage allows students to show their ingenuity and phantasy, to create something new, pioneering, original, unique. Any robot modifications are creative, encourage research, develop thinking, imagination, stimulate cognitive activity and curiosity. One tool for implementing the Experiment stage are interactive workers for each assembled model. Yet, creativity does not end here. The received models are put up for competitions and exhibitions or are filmed in our movies.

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Marina Naumova

Country	Russia
School	State General Education School of Moscow, General Lelyushenko Memorial School No. 627
School size	3,000+
Subjects / segment taught	elementary school, mathematics, Russian, literature
Number of years teaching	33
Email	nmv313@yandex.ru

I've worked with the LEGO building system since 1995. Among the first 27 Russian teachers, I passed an exam and got my international LEGO DACTA diploma in "Using LEGO DACTA in elementary school", developed a LEGO activity program for Grades for 1-4.

> *"Tell something to a child - and the child will forget it, explain something to a child - and the child will remember it, let a child do something on its own - and the child will understand it. With their versatility LEGO sets are greatly preferable visual aids, developmental instructional materials to diversify the learning process, to provide a comprehensive solution to many challenges faced by the school.*

From 1997 to 2013, I conducted courses on "LEGO & SPECTRA Instructional Materials in Elementary School" for teachers from Moscow and other Russian cities. I conducted city and district seminars and master classes on using this product, visited Moscow schools as a tutor. LEGO classes in our school were visited by the President of Russia, the Mayor of Moscow, foreign guests, education ministers from various countries and regions of Russia, teachers. Together with the students we would take part in Education exhibitions at VDNKh and Expocenter, where the children's projects would become winners and runners-up in various competitions and festivals.

I use LEGO items in classroom and afterschool activities, because working with LEGOs encourages independent, flexible, creative thinking in children, develops their speech and communicative skills. Students can adopt roles of young researchers, engineers, mathematicians, authors. As LEGO bricks have discrete properties enabling one to classify and compare them, use them in arithmetic operations, arrange them into any structures, so I often use LEGOs in math lessons. The bricks help children understand basic arithmetic operations, first through hands-on activities, then in their minds. By doing children get new results, learn new skills.

Chris Wilde

Country	U.K.
School	Royal Grammar School
School size	1300
Subjects / segment taught	Digital Technology and Computing (Y4-Y13)
Number of years teaching	17
Email	c.wilde@rgs.Newcastle.sch.uk

> *"I don't really think I teach that much. But I try to create conditions in my classroom that allow my students to learn through tinkering and play.*

I started my teaching career as a History teacher in Newcastle. After winning a commendation for teacher of the Year in 2006, I was seconded to our Learning Authority to work on a Virtual Learning Environment project. While there I upskilled my computing knowledge and pedagogy to teach students in our City Learning Centre. I supported over 60 schools and was recognised as a Digital Skills Leader in 2014. Earlier this year I was given the opportunity to build a brand new computer science department in our regions leading school. It's great to be back in the classroom again.

The Lego brick is an extremely versatile object to think with. Building models allows pupils to follow algorithms, debug in the analogue world and the importance of sequencing. The ability to build mechanisms with technics bricks allows us to solidify and gain deeper understanding of how things work. The ability to dismantle and rebuild models allows for rapid prototyping and iteration, which supports rapid development of ideas. However the most valuable aspect is that we all have fun with it. We are able to learn through play.

MEET THE

WINNERS!

2018

Lana Pereira

Country	U.S.A.
School	Milwee Middle School
School size	1500
Subjects / segment taught	LEGO Robotics, Artificial Intelligence Robotics, FIRST LEGO League
Number of years teaching	14
Email	Lana__Pereira@scps.k12.fl.us

“As an educator, I try to inspire students to discover the abundance of information and experience available to them, today and in the future. I try to open their minds to the experience of trying, to overcoming problems, and to seeing failure as an almost necessary step on the way to success. I create an environment where they do the work, so their success can truly be celebrated as the result of their effort.

I have been a mineralogist, a materials buyer, and an industrial analyst, all in South Africa. When we moved to the USA, I was a stay at home mom, then a math teacher. An early love of science fiction taught me about robots, but Girl Scouts introduced me to LEGO Robotics; serendipity led to a position teaching robotics and coaching eight FLL teams at school. I love this job and the learning and growth that accompanies it. I often learn along with my students, or from my students, and almost feel that I am living in my childhood stories.

I have an esoteric interpretation of ‘LEGO Brick’ – the Mindstorms robot brick, as well as its beams and pegs. The robots can reinforce many aspects of school education, whether by ‘acting out’ math formulas, using sensors in science, teaching computer science, teaching engineering, or even adding to the arts. The greatest advantage, covering all these topics, is the teaching of computational thinking and the engineering design process. The latter is truly a design for living. As students become comfortable with the concept in my class, I hope they discover that they can use it outside the classroom as well.

Joe Moseley

Country	U.S.A.
School	The Cornerstone School
School size	230
Subjects / segment taught	STEM Educator (Robotics, CAD, Programming)
Number of years teaching	18 years
Email	jmoseley@thecornerstoneschool.org

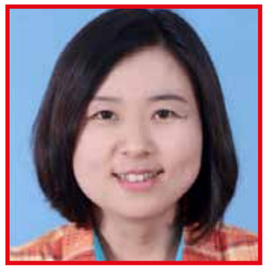
“STEM should not be an isolated class or discipline. The most effective STEM programs are those that align disciplinary concepts to real world and authentic applications. The whole premise of a STEM program is to develop intentional and meaningful cross-curricular connections.

Joe Moseley is a second career guy that started teaching Science 18 years ago. For the past twelve years STEM education has become his passion. Joe is a Floridian that has spent his entire teaching career in independent school education. He is committed to providing STEM opportunties to ALL children. Each year Joe coaches and mentors over 15 robotics teams, directs three FIRST Lego League qualifying tournaments, instructs a Girls Who Code Club, participates in Hour of Code, and hikes over 250 miles of the Appalachian Trail.

The use of Lego bricks to enhance mathematics and engineering skills can not be underestimated. Math concepts such as multiplication, arrays, and fractions are just some of the opportunities. For young learners Lego bricks promote basic themes of shapes and colors, fine motor skills, and collaboration. Lego builds can act as a stimulus and writing prompt for creative literature. The use of Lego bricks to learn computational thinking and programming algorithms are also possible. The opportunities of teaching with Lego bricks are limited only by the imagination of the students and the STEM instructor.
















CONGRATULATIONS

TO ALL THE WINNERS

2018



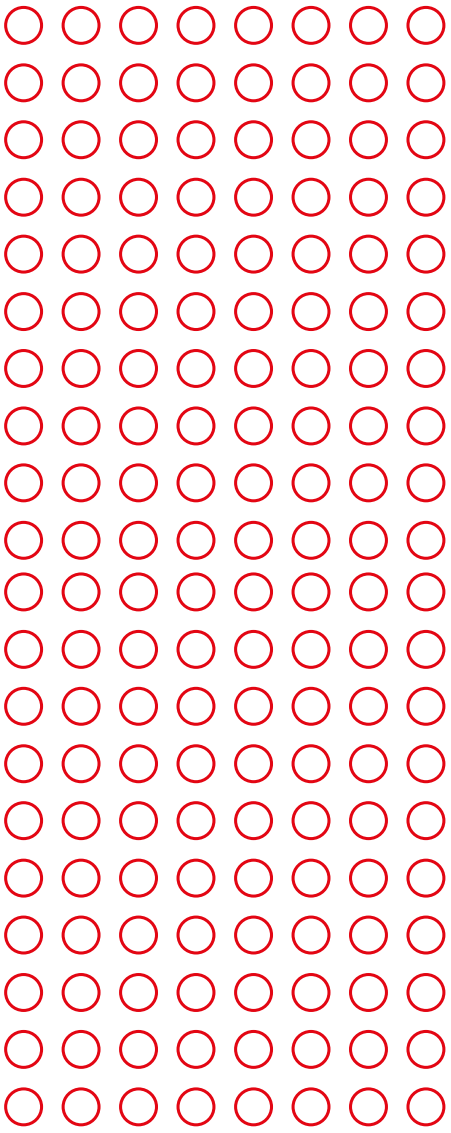








LEGOeducation.com



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