

# EEDA



**EXPLORE ENERGY  
DIGITAL ACADEMY**



NOVEMBER 2025

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# NEWSLETTER

## IN THIS EDITION

EEDA 2ND. FACE-TO-FACE-MEETING

DR. CARDOZO: EXCELLENCE IN RESEARCH

LEARNIFY TIPS AND NEW MODULES

UB-FR: REMOTE SOLAR LABS TO LIFE

SHORT COURSES WITHIN EEDA PLATFORM

PARTNERSHIP AT RIAO-OPTILAS 2025

UGAL: INTEGRATION OF LEARNIFY PLANNERS

OU-SL HOSTS THE IC<sup>2</sup>ESE CONFERENCE





## FROM THE EDITOR

If you think about it, every important transition in history begins quietly—almost imperceptibly. The first electric light bulb didn't illuminate entire cities overnight; it started as a fragile glow in a small place.

Innovation rarely announces itself with fireworks. Instead, it grows through persistence, collaboration, and the courage to try something different.

Education is experiencing one of these quiet revolutions.

Around the world, universities and institutions are reimagining how knowledge is created, shared, and applied. Not with grand declarations, but with steady, important steps: a new curriculum aligned with global standards, the first cohort of students completing an innovative programme, a conference that gathers experts around a common purpose, or a workshop where ideas cross continents. Each of these moments, taken alone, may seem modest. Together, they form the blueprint for a transformation that is already underway.

This edition of our newsletter captures precisely that spirit. New photovoltaic energy Learnify modules created, Galileo University in Guatemala, running flipped-classroom methodology. Another landmark event, the IC<sup>2</sup>ESE 2025 Conference, will soon bring researchers, industry leaders, and educators together to discuss solutions that reshape how we produce, consume, and protect our resources. And across our consortium, courses, trainings, and interdisciplinary collaborations continue to demonstrate one powerful idea: meaningful change happens when learning becomes action.

As we approach the final months of the EU-BEGP Project, we can look back with gratitude and forward with renewed purpose. What began as a shared intention among partners from different regions has evolved into new programmes, stronger academic capacity, measurable impact, and a network of people committed to modernizing education in the energy sector. Projects eventually close, but the knowledge they generate—and the people they empower—carry the work far beyond any official end date.

Education today cannot afford to remain static. The world is changing too fast, and the challenges we face demand thinkers who can connect disciplines, understand complexity, and imagine new possibilities. That is why every training delivered, every course launched, every student empowered, and every partnership strengthened moves us one step closer to an educational ecosystem that is more relevant, more inclusive, and more future-ready.

The quiet revolution continues. And we are part of it—not as spectators, but as contributors, catalysts, and storytellers of what comes next.

Let's keep learning. Let's keep building. Let's keep transforming—together.

## Dr. Evelyn Cardozo Rocabado: Excellence in Energy Research



Dr. Evelyn Cardozo Rocabado

The EEDA community proudly recognizes the remarkable achievements of Dr. Evelyn Cardozo Rocabado from the Universidad Mayor de San Simón (UMSS), who has been distinguished among the Top 100 Scientists of Bolivia by the AD Scientific Index 2026.

As Director of the *Centro Universitario de Investigaciones en Energías (CUIE)*, Dr. Cardozo has made significant contributions to energy engineering and renewable energy, leading research that promotes innovation, sustainability, and inclusion in the energy transition.

Her dedication not only advances scientific excellence but also strengthens education and collaboration across regions.

A valued member of the EU-BEGP Project and the broader EEDA network, Dr. Cardozo embodies the spirit of partnership and knowledge exchange that defines our community. Her work inspires both peers and students to reimagine the future of energy education through research and cooperation.

We extend our heartfelt congratulations to Dr. Cardozo for this well-deserved recognition — her achievements reflect the values EEDA stands for: excellence, collaboration, and a shared commitment to transforming education for a sustainable future.

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## EEDA 2nd. Face-to-Face Meeting Mauritius - February 2026

The EXPLORE Energy Digital Academy (EEDA) is pleased to announce that its Second Face-to-Face Meeting will take place from February 19 to 24, 2026, in the beautiful island nation of Mauritius.

This gathering will bring together partners from Europe, Africa, Asia, and Latin America for a new round of collaborative discussions on educational innovation, digital transformation, and global capacity building in the energy sector.

Building on the success of the first meeting held in Sweden in June 2025, this second edition will once again provide a dynamic space for universities to share progress, compare experiences, and strengthen cooperation across ongoing Erasmus+ capacity-building projects. It will encourage deeper on long-term sustainability of the collaborative ecosystem that EEDA continues to cultivate.

You are welcome to be part of this meeting. For details, please contact **Prof. Torsten Fransson** at [fransson.kth@outlook.com](mailto:fransson.kth@outlook.com)

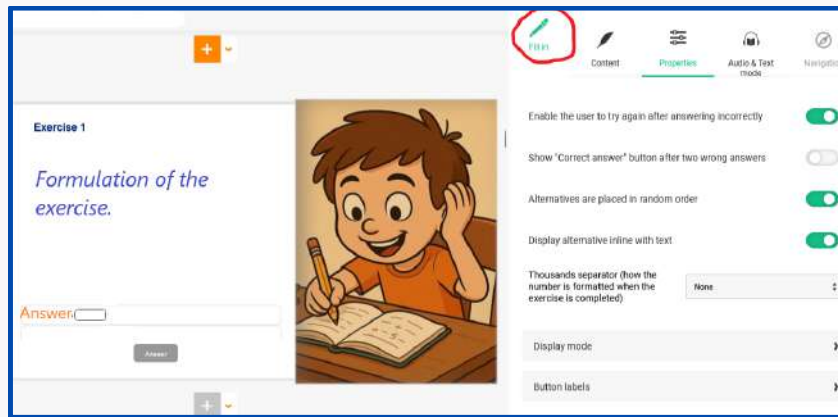


## LEARNIFY TIP

### Inserting Exercises Into The Platform

Petros Axaopoulos

University of West Attica, Athens, Greece



It is well known that educational material plays a crucial role in energy engineering education by providing learners with foundational and specialized knowledge, technical skills, and practical insights necessary to develop sustainable energy solutions.

However, in our digital era, digital educational materials in energy engineering offer numerous benefits, including increased accessibility and flexibility, engaging multimedia

content, and the ability to provide up-to-date information.

They enhance visualization and simulation capabilities, promote self-directed and collaborative learning, and reduce costs and environmental impact. Overall, these digital tools improve the quality and relevance of energy education, better preparing students for the evolving energy sector.

The Learnify platform has all of the above advantages and also offers a wealth of easily accessible features for creating and integrating educational material on energy topics. One of its special features is the ability to test learners' knowledge through critical questions and numerical problems.

For this purpose, it has six specially designed templates in a group called "*exercise*." The most frequently used template is "*multiple choice question*", while recently, in a newly created module, the "*Fill in*" template has also been used. This can accept arithmetic exercises whose solution is not visible to the user. In this case, the learner keeps trying until they find the correct answer. Thus, active problem-solving helps learners grasp underlying concepts more thoroughly than passive reading. In addition, tackling exercises encourages analytical thinking, reinforces learning, identifying gaps in knowledge and boosts self-efficacy and motivation to learn more complex topics.

At the same time, it develops problem-solving skills that are essential for research, experimentation, and innovation in scientific careers. In conclusion, independent exercise-solving is a vital component of active learning that promotes mastery and confidence in scientific disciplines.

As the energy sector evolves, the EXPLORE Energy Digital Academy remains committed to supporting universities in adopting digital tools that enrich learning and foster deeper engagement with complex scientific concepts. By integrating platforms like Learnify into everyday teaching and course design, EEDA helps institutions strengthen academic quality, encourage hands-on exploration, and expand access to modern educational resources.

# University of Bordeaux (UB) - France Brings Remote Solar Labs to Life

Thomas Zimmer  
University of Bordeaux



Students in UB working remotely

At the University of Bordeaux (France), innovation in education shines through international collaboration. During the Research & Innovation Day at the IUT on October 16, 2025, **Dr. Thomas Zimmer**, partner of the EU-BEGP Project, presented *"Remote Photovoltaic Laboratories in Bolivia: An Innovative International Learning Experience."* followed by a discussion, highlighting the growing interest in internationally connected laboratories towards an educational future.

The project allows students in Bordeaux to conduct real solar energy experiments online, using photovoltaic systems installed at different altitudes in Bolivia. This hands-on model combines renewable energy research, remote experimentation, and digital collaboration — demonstrating how modern technology can make science education both global and accessible.

The initiative reflects the spirit of EEDA's mission to modernize higher education by connecting students and educators across borders, fostering shared learning environments, and bridging gaps in access to laboratory experiences.

# Universidad Galileo Takes A Significant Step With Learnify

Sebastian Cabria  
Universidad Galileo, Guatemala

The journey toward smarter academic planning continues at Universidad Galileo (Guatemala), where the first phase of the Learnify platform implementation has just been completed.



Teachers and students at Universidad Galileo

During a dynamic working session held on November 4, 2025, teachers and planners explored the platform's potential, sharing valuable feedback on its usability, performance, and capacity to enhance course organization.

This initial milestone reflects Galileo's commitment to modernizing educational tools and practices. The insights gathered will shape the next stages of development, ensuring Learnify becomes an even more intuitive and effective support for academic planning across the institution.

With this progress, Universidad Galileo reinforces its role as an innovative partner within the EU-BEGP consortium — moving steadily toward a more connected, agile, and learner-centered academic environment.

## Partnership Highlight:

### Latin America Showcases Innovation in Optics, Photonics, and Remote Laboratories at RIAO-OPTILAS 2025

From November 17 to 21, the vibrant city of Santa Cruz, Bolivia became a regional hub for scientific exchange as the Universidad Privada Boliviana (UPB) hosted RIAO-OPTILAS 2025, one of Latin America's most influential and forward-looking conferences in optics and photonics.

This year's edition stood out not only for the quality of its research contributions but also for the strong presence of universities actively engaged in international collaboration and digital transformation – core pillars of EEDA's vision for modernizing higher education and strengthening academic ecosystems worldwide.



The image captures the opening session of RIAO-OPTILAS 2025, where participants from across Latin America and beyond gathered to celebrate scientific collaboration, exchange ideas, and launch an inspiring week of presentations and discussions.



EU-BEGP representatives at RIAO-OPTILAS 2025, highlighting their active role in advancing remote laboratories and international collaboration.

Representatives from UNI (Peru), EPN and ESPOL (Ecuador), UMSS and UPB (Bolivia) showcased a series of remote laboratories that are redefining how practical engineering education can be delivered. These innovative systems enable students to conduct real laboratory experiments online, connecting classrooms across borders and extending access to high-quality, hands-on learning regardless of geography or institutional constraints.

Their participation demonstrated how remote experimentation has evolved from an emergency solution to a sustainable model for future-focused engineering education, aligned with EEDA's mission to broaden participation and strengthen international academic cooperation.

The conference also featured a session on the importance of linking capacity building, research, and digital innovation within global educational ecosystems. During this discussion, participants were introduced to the EXPLORE Energy Digital Academy (EEDA) – a platform designed to bring together universities, foster shared expertise, and create new opportunities for interdisciplinary learning and international mobility.

EEDA proudly celebrates the meaningful contributions of its South American partners, whose work at RIAO-OPTILAS 2025 illustrates the collective progress being made toward a more connected, modern, and inclusive academic landscape that embraces digital transformation and global collaboration.

# Expanding Access to Modern Energy Education: New Short Courses Launch Through EEDA

Two new short courses are now underway through the EXPLORE Energy Digital Academy (EEDA), reinforcing its mission to expand access to high-quality, specialized training across Latin America.

Designed and delivered collaboratively by partner universities in Bolivia, Peru, and beyond, these programs offer students and professionals the opportunity to engage with emerging topics in the energy and sustainability sectors.

Both initiatives exemplify how EEDA serves as a platform for modernizing education, enabling universities to share expertise, integrate digital tools, and provide practical learning experiences that transcend geographic barriers.

Through a combination of expert-led instruction, remote laboratory access, and regionally relevant content, the new courses strengthen participants' technical competencies while fostering a broader culture of academic cooperation.

From environmental challenges to energy-efficient building systems, these offerings highlight the diverse areas where EEDA supports universities in updating curricula, enriching pedagogical approaches, and connecting learners with real-world applications.

By centralizing resources and promoting innovative teaching methods, EEDA continues to empower institutions to deliver future-oriented education aligned with the needs of today's energy transition.

With these new courses, the Academy reaffirms its commitment to building a more connected, modern, and accessible landscape for energy education across the region — one where collaboration drives lasting impact.



Short course on solar-based water treatment offered through the EEDA platform.



HVAC fundamentals course delivered by PUCP in collaboration with EEDA.

## NEW LEARNIFY MODULE ON THE PROBLEM OF PHOTOVOLTAIC SHADING

*P. Axaopoulos*

*University of West Attica, Athens, Greece*

When a photovoltaic module or a part of it is shaded, some of its cells become reverse biased, acting as loads instead of generators. The shading effect in PV systems is a very crucial issue, leading not only to the decrease of the power produced, but could also impose destructive effects such as cell or glass cracking, melting of solder or degradation of the solar cell.

This is a common situation due to, for example, the presence of dirt or leaves on one solar cell or shading due to objects such as trees, chimneys, telephone or other utility poles, antennas, bird droppings, architectural features, mechanical equipment or other obstructions that may be found on the roof or any other part of the building and/or its surroundings. Therefore, this situation makes the study of shading of photovoltaic modules a key issue.



A module on shading was recently created, entitled “**SA301-T1L01CM07: The I-V curve under partial shading conditions**”. The objective of this application is for the learners to become capable to use the remote PV experimentation system of the University of West Attica-Athens-Greece, to extract the I-V curve, under real environmental conditions, of a single or four solar modules connected in series and parallel, in the case where one module of them is partially shaded.

The module describes in detail the experimental exercise that the learner should perform, while also including 10 basic control questions using the "multi-choice question" template, and 10 numerical exercises using the "Fill in" template. The "Fill in " template can accept numerical exercises whose solution may not be visible to the user. In this case, the learner keeps trying until they find the correct answer.

Thus, active problem-solving helps learners grasp underlying concepts more thoroughly than passive reading. Numerical exercises for PV cells/modules shading, involve analyzing the overall power output and potential for hot spots or damage.

The exercises involve analyzing how different shading patterns affect the power output and using concepts like the bypass diode to predict system behavior.

The most important take-away is that partial shading has a significant negative impact on the energy performance of PV systems and should be taken into serious consideration during the design stage of the installation.

# Integration of Learnify Planners at Galileo University: Evaluation of Results, Institutional Learning, and Projections for EEDA

Carlos Lemus M. - Universidad Galileo Guatemala



Prof. Carlos Lemus during flipped-classroom methodology with students.

**Galileo University piloted the flipped classroom methodology using Learnify planners.**

A main goal of the pilot was to assess whether the flipped classroom model is viable in the Guatemalan context, where learning relies heavily on teacher-led structure. At Galileo, students are accustomed to theory, calculations, practical work, and labs with close guidance, so reducing contact hours demands greater autonomy.

It was seen that during synchronous sessions students arrived with clearer, more focused questions, making class time more efficient—but also showing that independent learning develops gradually.

*In the final survey, 60% felt the method prepared them better, though some noted that the platform was initially unintuitive and that performance varied across devices.*

Despite initial concerns, language was not a major obstacle: most students used the browser's translator effectively, while others navigated the English content without difficulty. This ensured that the experience was not limited by linguistic barriers.

Some challenges arose with multimedia resources. Although the modules included verified YouTube videos, several were no longer available when students accessed them, so the links were removed to avoid interruptions—highlighting the need to verify content stability beforehand. The translator worked well overall, though “Text Mode” altered some formulas, affecting comprehension; this issue was documented and escalated. Translation also depended on each student's browser settings, which caused small delays.

**Although the implementation was new and carried out under tight timelines, student performance still showed a modest 3% improvement.**

The selected group already struggled in math-heavy courses and exhibited post-pandemic habits such as procrastination, which affected their adaptation to the model. Many described the experience as “rushed,” reflecting the short period available. Even so, the pilot allowed us to identify key areas for improvement.

Looking forward, we plan to continue using Learnify—either through EEDA Explore or directly on the platform—distributing modules across the full semester. This will reduce pressure, allow for more representative results, and help determine whether academic performance improves more significantly.

With proper planning and gradual adaptation, planners can become a strong complement to instruction. This pilot was not about perfection but about learning—and in that sense, it achieved its purpose.

## 2nd International Conference On Circular Economy and Sustainable Ecosystem (IC<sup>2</sup>ESE – 2025)

The Open University of Sri Lanka is set to host the 2nd International Conference on Circular Economy and Sustainable Ecosystem (IC<sup>2</sup>ESE – 2025) on 11 December 2025. This prestigious event will bring together researchers, industry experts, policymakers, and sustainability practitioners to discuss innovative solutions that support the global transition toward a circular and environmentally resilient future.



IC<sup>2</sup>ESE 2025 will highlight cutting-edge research and practical approaches in areas such as resource recovery, sustainable production, eco-design, waste minimization, renewable energy applications, and green technologies. The conference aims to strengthen the link between academia and industry, fostering collaborative pathways for sustainable development.

The event is organized in collaboration with leading partners including the MSc in Energy for Circular Economy programme, Explore Energy, Air Mech (Pvt) Ltd, and other institutional supporters dedicated to sustainability and climate action.

Our Keynote Speakers during the event are recognized professionals in the industry, and in educational ecosystems:

- 1 Prof. Annukka Santasalo-Aarnio
- 2 Dr. Jeevan Jayasuriya
- 3 Prof. (Dr.) Cristina Efremov
- 4 Dr. Ishanka Udeshini Dadigama



**International Conference on Circular Economy and Sustainable Ecosystem**

THE OPEN UNIVERSITY OF SRI LANKA

11th December 2025  
The Open University of Sri Lanka  
Nawala, Sri Lanka

**KEYNOTE SESSIONS**

- 1 Prof. Annukka Santasalo-Aarnio  
Associate Professor  
Aalto University
- 2 Dr. Jeevan Jayasuriya  
Senior Lecturer  
KTH Royal Institute of Technology
- 3 Prof. (Dr.) Cristina Efremov  
Associate Professor  
Technical University of Moldova
- 4 Dr. Ishanka Udeshini Dadigama  
Senior Lecturer  
University of Sri Jayewardenepura

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IC<sup>2</sup>ESE Department of Mechanical Engineering

By bringing together diverse perspectives and creating dialogue between academia, industry, and government, the conference seeks not only to showcase innovation but also to inspire actionable strategies that can drive long-term environmental impact. Participants can look forward to a dynamic and enriching event that reinforces the shared commitment to building a more sustainable and resilient future.

## *The EEDA Community*

EEDA is proud to bring together a growing network of Erasmus+ Capacity Building projects dedicated to modernizing education in energy and sustainability.

Each project contributes unique perspectives, innovations, and expertise from universities across Europe, Latin America, Africa, and Asia.

Together, we form a vibrant community committed to shaping the future of higher education in the energy transition.



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Azerbaijan, Georgia, Moldova, Romania, Greece, Sweden

We invite all our partners, collaborators, and readers to explore these initiatives and become part of the EEDA community — where shared knowledge and cooperation drive lasting impact.

If you want to learn more about EEDA, and be part of the community, visit our website at: <https://learning.eeda.academy/>