



Electric vehicle train-the-trainer programme

Promising Practice

Implemented by:
Hudson Valley Community College

Where:
The United States of America

Status:
Launched in May 2022

Summary:
The programme provides training on the maintenance of electric vehicles to automotive technician instructors and advanced automotive technician students during a five-day intensive training course.

Overview

Hudson Valley Community College (HVCC) is part of the State University of New York (SUNY), the largest comprehensive state university system in the United States of America. Nationally ranked for student success, HVCC is one of SUNY's most acclaimed colleges and offers more than eighty associate degrees and certificate programmes in the heart of New York's Capital Region. The college serves nearly 14,000 students in credit-bearing and non-credit courses and has experienced two years of consecutive growth.

Description

Train-the-trainer programme

Hudson Valley Community College collaborated with the Corporación Educativa Automotriz (CEA) from Costa Rica to develop a five-day intensive electric vehicle train-the-trainer programme for their automotive technician instructors. The course contains introductory lectures to present the theory and operation of EVs and HEVs, laboratory experiments and computer workshops.

Modified programme

Due to the programme's success, a second group of advanced automotive technician students and instructors attended a modified version of the programme in February 2023. One modification was delivering the morning lecture in Spanish by an alumnus of the inaugural session, with guidance provided in English during the afternoon laboratory. Due to its continued success, a third cohort will be attending the programme in 2024, and an advanced programme has been developed and is ready to launch later in 2024.

Sharing the experience

Participants in this programme were professional automotive educators with extensive experience and advanced students. The cultural differences between the automotive repair industries in Costa Rica and the U.S. were immediately evident. Supply chain issues require Costa Rican technicians to rely on repairing parts and components that technicians in the U.S. would replace. This "repair first" mindset requires skills and knowledge not frequently utilized in the U.S. These skills are becoming imperative as the U.S. deals with part/component shortages. The Costa Rican colleagues were able to share

their knowledge and experience in these areas. Furthermore, due to the historical availability of innovative technology, U.S.-based technicians are highly experienced in employing the latest technology for diagnosis and repair. Tapping this depth of knowledge proved to be of great value for the Costa Rican participants.

Objectives

Hudson Valley Community College is committed to reaching out to individuals and entities (i.e., educational organizations and institutions, humanitarian organizations, businesses and industries, and governments) to explore potential avenues of collaboration to develop human capital for capacity building.

The initial objective of the initiative was to provide training to CEA's Automotive Instructors to assist them in teaching analytical and hands-on skills in diagnosing and repairing Hybrid Electric Vehicles (HEVs) and EVs to their students while also introducing autonomous and semi-autonomous vehicles. However, the objective of the programme has expanded. The second cohort of participants included advanced automotive technician students and participants from other countries, namely El Salvador, Ecuador and Mexico.

Providing training to CEA's automotive instructors

The electric vehicle train-the-trainer programme was initially developed to address a specific need in Costa Rica. The catalyst for the development of the programme was a Zoom meeting in 2018 between Dr Jay Deitchman, HVCC's Director of Global Initiatives, and several representatives of institutions that are members of Cámara Nacional de la Educación Privada (CANAEP) - consortia of post-secondary institutions in Costa Rica. The meeting was a follow-up with contacts made during an Education Trade Mission to Costa Rica by HVCC President, Dr Roger A. Ramsammy. During the meeting, the group was asked what needs the college might be able to assist with. Octavio Jimenez-Díaz, General Administrator, CEA, then asked if the college could provide training regarding electric vehicles to CEA's Automotive Instructors. Since the faculty was working on a new Associate Degree in Occupational Studies in Electric and Autonomous Vehicles at that moment, the rest, as they say, is history.

There is a significant demand for automotive technicians who have training in the maintenance of electric vehicles. Therefore, since the development of this programme, New York State has indicated that they wish to send all automotive technicians who maintain New York State's fleet of vehicles through this programme.

The training that the Automotive Instructors received has enabled them to better educate their students on the care and maintenance of hybrid and electric vehicles. Furthermore, due to the programme's great success, Advanced Automotive Technician Students from CEA had the opportunity to attend the training in February 2023. Moving away from a dependency on fossil fuels is a national priority in Costa Rica, and the shift to electric vehicles is a significant component of the country's plan. Thus, automotive technicians who are more knowledgeable regarding electric vehicle maintenance are more marketable.

Outcomes and impact

Thus far, twenty-six participants have completed the programme. Since the partnership between HVCC and CEA is robust, it is anticipated that HVCC will continue to deliver this training to CEA participants for the foreseeable future.

The received training

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National priority in Costa Rica

Moving away from a dependency on fossil fuels is a national priority in Costa Rica, and the shift to electric vehicles is a significant component of the country's plan. Thus, automotive technicians who are more knowledgeable regarding electric vehicle maintenance are more marketable when they enter the workforce.

Higher Education training

The programme participants were given a rare opportunity to receive training in the U.S., specifically developed for them and offered exclusively by a U.S. higher education institution. Hence, the EV Train-the-Trainer Programme provided participants with an experience they would otherwise not have had, along with a unique perspective they can draw upon, whether teaching their students, continuing their training, or on-the-job.

Challenges

Varied levels of English language proficiency

The participants' varied English proficiency levels were overcome with the assistance of the CEA contingent's interpreter and the CEA administrator. Students were required to pass a comprehensive certifying exam after the course, with a grade of 80%, which was exceeded by all.

Supplies and costs

Supply chain issues caused by the pandemic made it challenging and costly for participants to obtain the necessary personal equipment (e.g., protective gear and tools). CEA ordered the required personal equipment online and had the items shipped directly to HVCC – thus eliminating the need to travel with them to the U.S.

Insights

New York State has indicated that they wish to send all automotive technicians who maintain New York State's fleet of vehicles through this programme. Thus, the Electric Vehicle Train-the-Trainer Programme exemplifies how a global initiative can have a domestic application and impact.

Next steps

Due to its continued success, a third cohort will attend the programme in 2024. Additionally, faculty from CEA visited HVCC for one week in December 2023 to engage in curriculum development for an advanced electric vehicle train-the-trainer programme to be launched in 2024.

Learn more

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To learn more about Hudson Valley Community College, visit:
<https://www.hvcc.edu/about/global-initiatives/index.html>

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