Empowering the next generation of STEM professionals for the energy transition: STEMSpec's innovative approach.

ONOJA, O. and EKE, E.

2024

Empowering the Next Generation of STEM Professionals for the Energy Transition: STEMSpec's Innovative Approach

Ojotule Onoja, Robert Gordon University, Aberdeen, UK,. Email: t.onoja@rgu.ac.uk
***Corresponding Author: Emmanuel Eke, STEMSpec, Aberdeen, UK. Email: info@stemspec.com**

Introduction

According to the National Energy Skill Accelerator (NESA) report on the "Future Energy Skill 2023-2030", communicating energy career pathway is the top priority for the green energy economy [1].

Also, "Perceived difficulty" in STEM is caused by lack of clarity of STEM concepts application in the real-world [2].

STEMSpec's innovative platform will connect STEM curriculum to real-world applications and will help students costs/benefits compare of various STEM career pathways.

Case Study

- 5 Trainings delivered on Lifecycle Analysis and career opportunities in the hydrogen economy in three schools in the UK.
- Separate survey on the "perceived difficulty" in STEM was collected from STEM students , teachers and professionals.
- Science Education Tracker 2023 Report shows between 2019 and 2023 young people were less interested in science [2].

Methodology

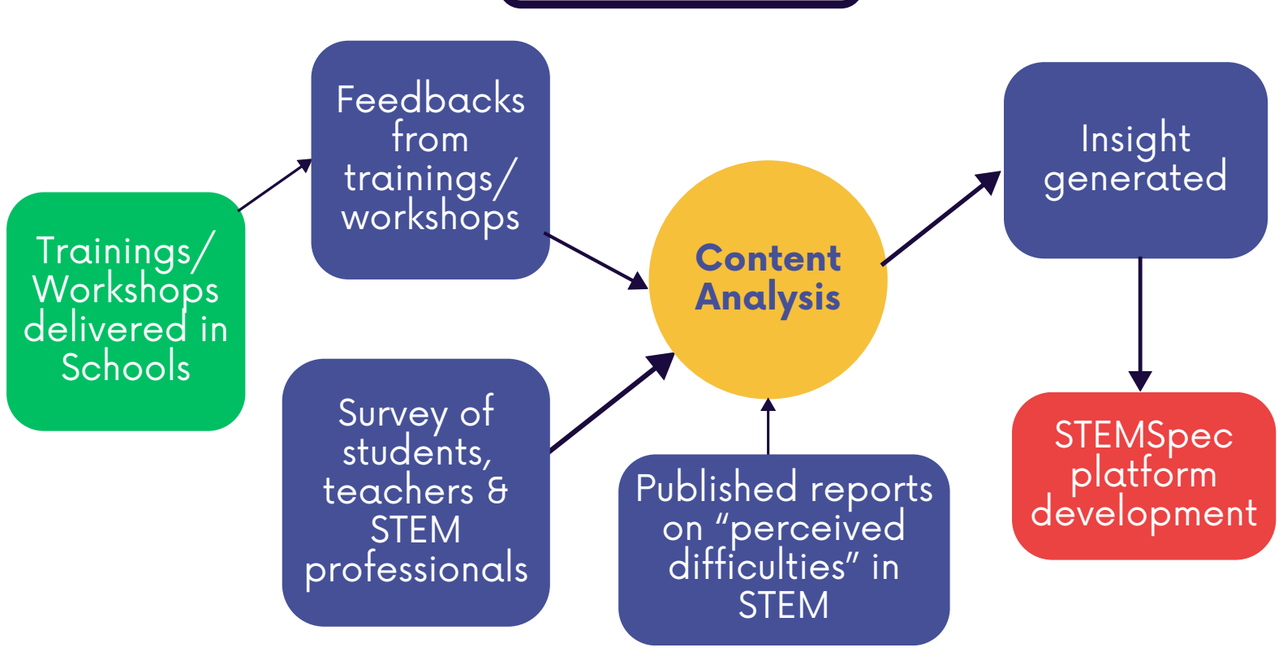

Figure 1. STEMSpec's approach in designing a web-based platform that show real-world application of STEM concepts and compare career pathways.

Validation & Findings

5 trainings delivered on lifecycle analysis and careers in the hydrogen economy clearly show students' interest in developing skills required in the green economy.

Questions and feedbacks from the trainings/workshops where mostly around career pathways in the green economy.

Independent survey from STEM professions, reveals more need to be done to stimulate students' interest in STEM.

STEM teachers believe students are more drawn to STEM professions that aligns with their personal interest.

STEMSpec Platform

STEMSpec is a web-based platform and App

Implications

- The "perceived" difficulty in STEM can be minimise with tools that show real-world applications of STEM concepts.
- Building "STEM capital" required sustained motivation beyond the classroom.
- Collaboration and knowledge exchange between teachers, parents and STEM professionals is key for driving STEM adoption.

References
[1] National Energy Skills Accelerator (NESA), Future Energy Skills 2023-2030, 2024. https://the-nesa.org/projects/just-transition-fund-future-energy-skills-2023-2030
[2] L.C. (Verian) Hamlyn Becky, Brownstein Leo, Shepherd Alex, Stammers Jacob, Science Education Tracker 2023, 2024. https://www.engineeringuk.com/research-policy/attitudes-knowledge/the-science-education-tracker-2023/.