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**SUSTAINABLE LIBRARIES:
NAVIGATING CLIMATE CHANGE IN
THE INFORMATION SPACE**

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TABLE OF CONTENTS

Catherine Enatta Ikokoh PhD, Garba Nafada Babale PhD and Joel James Ikokoh Transformative Roles of Academic Libraries in Climate Change and Education Outreach	1 - 16
Lukman Oladehinde Badru Climate Change: The Role of Libraries for Sustainable Environment	17 - 30
Bilikis Adefunke Babarinde PhD. Climate Change and Mental Health: The Role of Information Professionals	31 - 40
Dr. Adefunke. S. Ebijuwa, Oluwatosin. O. Oladejo and Dr. Thomas. A. Ogunmodede Information Stewardship in the Age of Climate Change: The Role of Library and Information Science Professionals	41 - 54
Professor K. I. N. Nwalo and Gbemisola M. Adegbuyi Beyond Books: The Evolving Role of Librarians in Tackling Plastic Pollution	55 - 72
Sadiat Adetoro Salau, Jibril Alhassan Attahiru, Isah Yahaya, Musa Baba Adamu, and Mustapha Abdulkadir Gana Creation of an Online Self-Study Tutorial on Climate Change Literacy for Non-Specialist Audiences: A Step-By-Step Approach	73 - 81
Yusuf Ayodeji Ajani, Bilqees Jumai Nallah, Mumeen Omoniyi Otun, Iliyasu Adamu Jagaba and Fawaz Suraj Adaviriku Curation of Library Collections in The Era of Climate-Change: Achieving A Sustainable Solution	82 - 97
Adewale Joel Sobalaje, Solomon Olusegun Oyetola, and Festus Adeniyi Onifade Digital Innovation for Climate Change and Sustainable Development in Libraries and Information Space in Nigeria	98 - 109
Francisca Nwakaego Okoroma Analysis of Library and Information Science Professionals' Response to Climate Change: A Comparative Study of African Countries	110 - 123
Raliat Alabi and Aishat Wuraola Popoola Institutionalizing Green Library to Address Climate Change for Sustainable Development in Libraries in Nigeria	124 - 138
John Olugbenga Akinola (Ph.D), Aderinola Ololade Dunmade (Ph.D), Adeola Adesoji Arinola (Ph.D) and Ezekiel Tubosun Olatunji Exploring Sustainability: Perspectives of Olusegun Oke Library Staff on Environmental Practices at Ladoke Akintola University of Technology Ogbomoso, Oyo State, Nigeria	139 - 148
Tajudeen Olaseni Afolabi, Jide Tunde Ayoola, Feyikemi Adeola, Nwokobia Dawn and Olaleke Abiodun Stella LIS Professionals Responding to Climate Crisis: Opportunities and Challenges in Africa	149 - 158
Solomon Olusegun Oyetola, Festus Adeniyi Onifade and Adewale Joel Sobalaje Library and Information Science Professionals' Responding to Climate Change Crisis in Nigeria	159 - 171

Oyedele Abimbola Ojeniyi and Rebecca Oluwafunmibi Ojeniyi PhD

172 - 186

Building Climate Change Resilient Communities Through Health Education: Collaborative Approaches with Libraries in Nigeria

A. B. Oshinaike (PhD) and Danjuma Saidu

187 - 193

The Role of Libraries in Climate Resilience: Building Sustainable Information Hubs



CREATION OF AN ONLINE SELF-STUDY TUTORIAL ON CLIMATE CHANGE LITERACY FOR NON-SPECIALIST AUDIENCES: A STEP-BY-STEP APPROACH

by

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Abstract

As librarians interested in open knowledge, the researchers observed that the climate crises had yet to receive the necessary attention through access to contextual open educational resources (OER) to counter climate misinformation, which was evident during the devastating floods in 2022. Most of the available Massive Open Online Courses (MOOC) on climate change are either too 'academic' or not relatable to non-specialist audiences. Thus, to tackle climate misinformation, the researchers adapted the instructional design method to create an open online tutorial for non-specialist audiences. Five climate advocates at the forefront of climate education in Nigeria were interviewed about the friction points and opportunities of climate education and the feedback shared with three subject experts. The feedback from these advocates, along with the suggestions of the subject experts, was instrumental in the design of an open self-study tutorial. The online tutorial was designed using the OER Commons open-authoring tool. The online tutorial is expected to increase the robustness of the open knowledge commons with information on contextual climate change and increase climate change literacy.

Keywords: Open Education Resource (OER), Massive Open Online Courses, Climate literacy, Climate Education, Nigeria

Introduction

Several reports of climate-change-related disasters have been made globally. Thus, literacy about the changing climate is crucial because it empowers individuals, communities, and policymakers to make informed decisions that can mitigate climate change and adapt to its effects. Consequently, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) recognises the advancement of climate literacy, increasing climate change awareness and knowledge around the world, as a contribution to achieving the Sustainable Development Goals (SDGs).

Given the enormous effects of climate change, climate literacy in Africa is an essential and growing field, as Africa bears most of the effects (Nwanonyiri, 2024). Interestingly, there is a general awareness that climate change should be tackled. However, there seems to be a denial of the role Africans should be playing in this effort. This position is compounded by the

low carbon footprint of the continent and the inequity and injustice surrounding issues like low carbon pricing in the developing world due to political and economic constraints (Finon, 2019; Lejano et al., 2020).

In Nigeria, the common misconception is that climate change concerns Western societies due to the predominant hot weather and other enormous issues of insecurity, poverty and food crises. However, this misconception sometimes overlooks how climate change affects vulnerable communities worldwide, including developing nations. Thus, literacy on climate change is needed now more than ever. A climate-literate person understands how to assess scientifically credible climate information, make informed and responsible decisions regarding actions that may affect the climate and participate in community-based efforts to reduce emissions and adapt to its impacts (NAAEE, 2024; Nwanonyiri, 2024). Corroborating this, a report by [statista.com](#)¹ in 2020 indicated that 60% of Nigerians were unaware of climate change², with a significant portion being indifferent and varying levels of awareness.

Consequently, access to information and climate communication is essential for raising public knowledge of the problems posed by climate change and strategies for adaptation (Akudo & Kizito, 2023). Librarians, as forerunners of information literacy, should champion climate change literacy. For instance, they should produce online educational materials like seminars, online courses, and interactive content in collaboration with experts, focusing on climate concerns and solutions specific to different regions of Africa that are contextual to the African setting (Nwanonyiri, 2024). Based on the aforementioned, the researchers designed an easy-to-understand open self-study tutorial to increase climate literacy in Nigeria.

Project Approach/Methodology

An adapted instructional design research method was adapted for the creation of the tutorial. The following approaches were adopted.

1. Stakeholders mapping: The project approach started with a stakeholder mapping at the forefront of climate education and communication to non-specialist audiences for the project in March 2023. The identified stakeholders include five (5) climate advocates, (2) subject matter experts and one (1) instructional design expert. The X (formerly Twitter) platform was used to identify climate advocates. X was used because of the strong presence of climate advocates from Nigeria. After identifying the first climate advocate, the researchers adopted

¹ [Statista Research Department](#), Jan 20, 2023

² <https://sppnigeria.org/elochukwu-anieze-youth-and-fight-against-climate-change-in-nigeria/#:~:text=As%20reported%20by%20statista.com,the%20battle%20against%20climate%20change.>

the snowballing method to get the names of other advocates. Also, the authors leveraged their professional settings to identify subject matter experts who could write content for non-specialist audiences and one instructional design expert. The authors define *non-specialist audiences* as individuals without specialised knowledge, technical expertise, or minimum advanced training, like a diploma or degree in subject areas related to climate change like Geography, Environmental Management or Marine Studies. The stakeholders' mapping aimed to understand the friction points, opportunities, and challenges of climate education and how best to approach the online tutorial, which informed the objectives of the tutorial.

Objectives of the tutorial

At the end of the tutorial, learners should be able to:

1. understand the basic concepts of climate change, including its causes and effects, and how it relates to the Nigerian environment;
2. identify the impact of climate change on Nigeria, including but not limited to agriculture, water resources and human health;
3. know some current practices in Nigeria related to climate change adaptation and mitigation;
4. describe strategies and solutions for adapting to and mitigating the effects of climate change in Nigeria, using both local and global best practices and approaches applicable to Nigerians; and
5. identify how the participants can act to adapt to the climate crises in Nigeria, based on relevant examples or activities in their context (including activism, climate action enterprises and businesses or communicating about the climate crises).

2. Interview session with Climate Advocates: A 30 minutes virtual interview was conducted for five climate advocates between March and April 2023 in the following areas: Climate and Environmental Education, Climate Change Information & Education Sources, Climate Change Communication and Education, Climate Change Crises Mitigation and Adaptation Practices.

Tutorial Content Development

The content curriculum of Ochoyi and Ochoyi (2013) of climate change for non-formal education sector was adapted for the online tutorial. In addition, the feedback of the interview with the climate advocates was used to further modify the tutorial outline to include adaptation and mitigation practises, which hitherto wasn't included in the outline. After the modifications, the outline was shared with the subject matter experts for content development.

1. Designing the tutorial on OER Commons: The OER Commons is a freely accessible online library that allows learners and teachers to upload, search and discover open educational

resources and other freely available instructional materials (Wikipedia). Interestingly, the Commons have an authoring tool to develop open contents that can be hosted on the commons.

Several open authoring tools were suggested to design and host the online tutorial. However, after several series of consultations and suggestions by instructional design expert and other team members, the tutorial was designed using the authoring tool of the Open Education Resources (OER) Commons (oercommons.org). The OER commons was selected because of its robustness in the curation and organisation of OER contents across all cadre of education. In addition, it offers the open authoring tool that can be used to create OERs before hosting. The authors reviewed the contents developed by the subject matter experts before creating the storyboard and ensured that they aligned with the objectives of the tutorial.

The tutorial was titled *NaijaCLIMATE* and designed as two separate stand-alone modules. The first module was on the basics of Climate Literacy, while module two was on Climate Change Adaptation and Mitigation Practices: The Nigerian Experience.

2. Step by Step Process of Creating an Open Tutorial on the OER Commons

- i. Log onto the OER Commons at www.oercommons.org and register using the register tab on the top right corner.

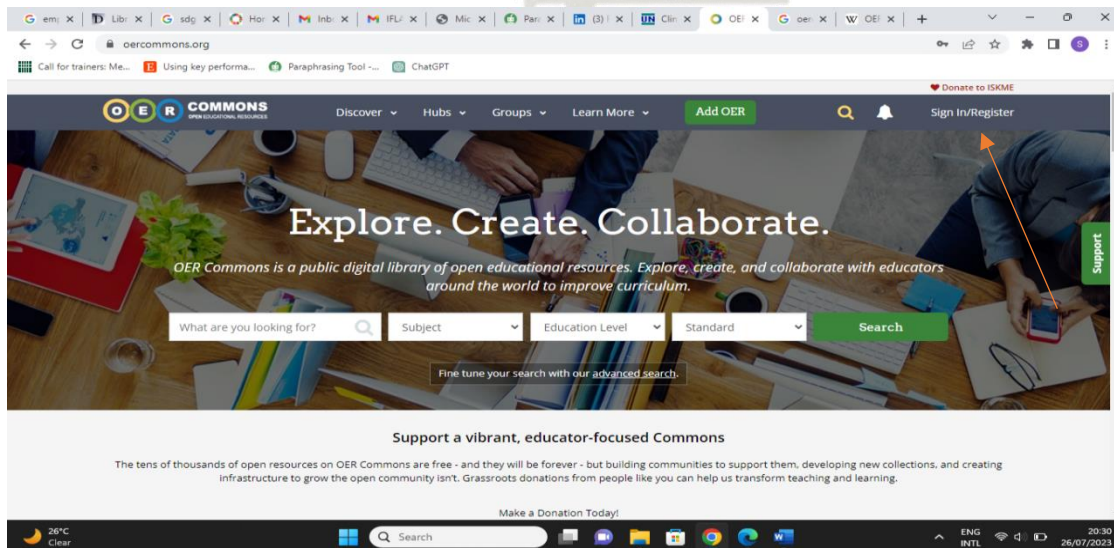


Figure 1: Homepage of the OER Commons

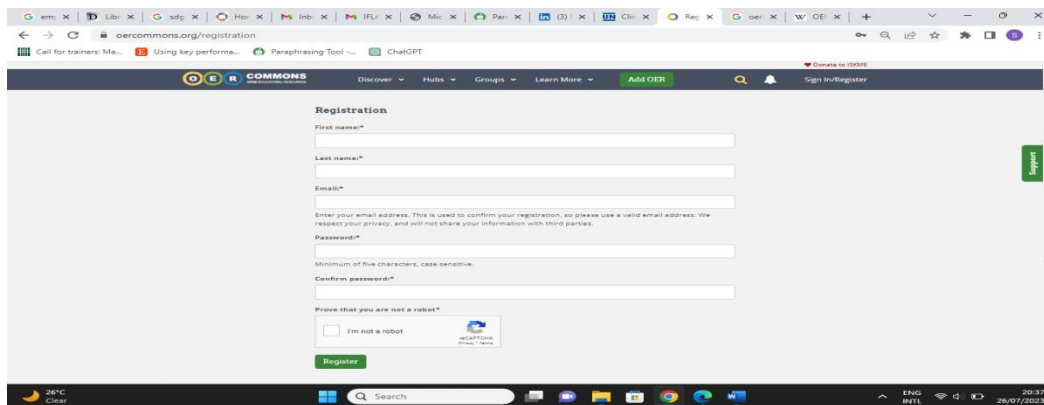
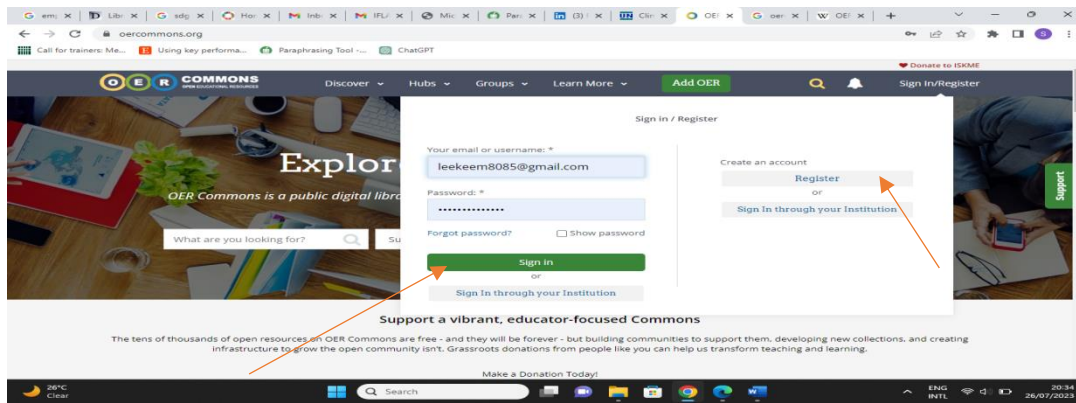


Figure 2: Homepage of the OER Commons showing the sign in/register interphases

ii. Fill in the registration details if you are a new user and the sign in details subsequently.

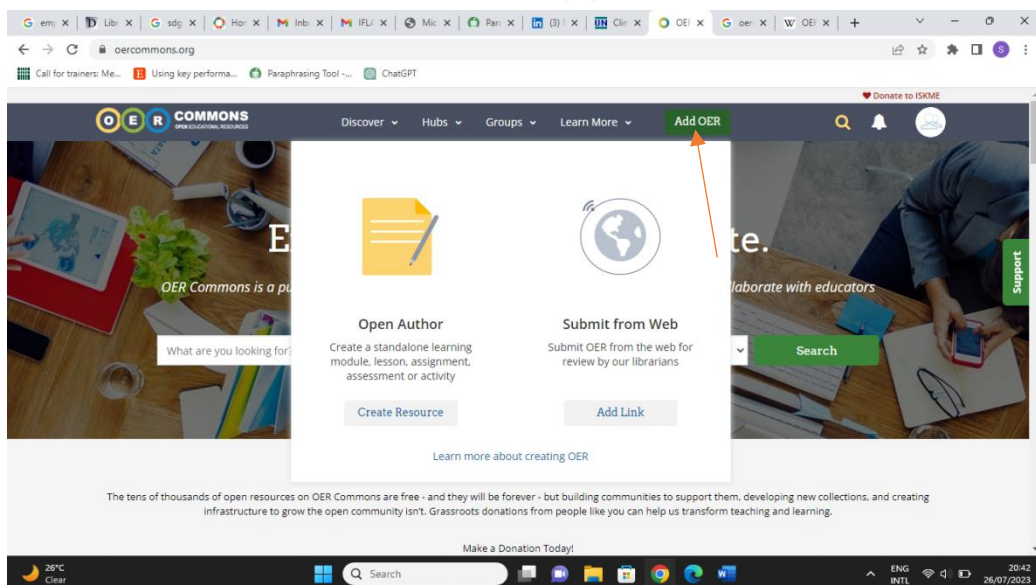


Figure 3: Open Author Interphase

iii. After successfully signing in, click on the ‘Add OER’ tab on the top bar and ‘Create Resource’ on the ‘Open Author’ bar by the left-hand side.

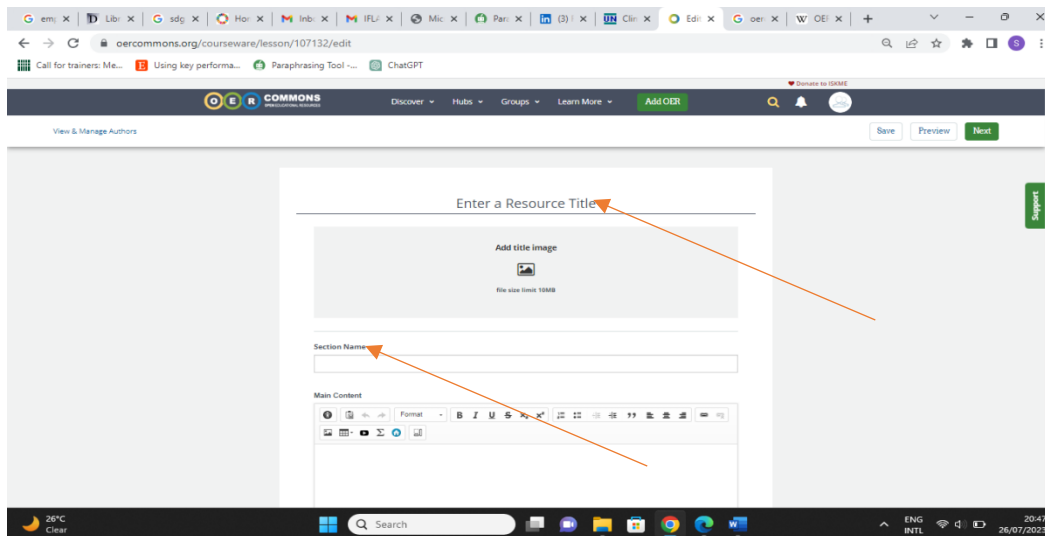
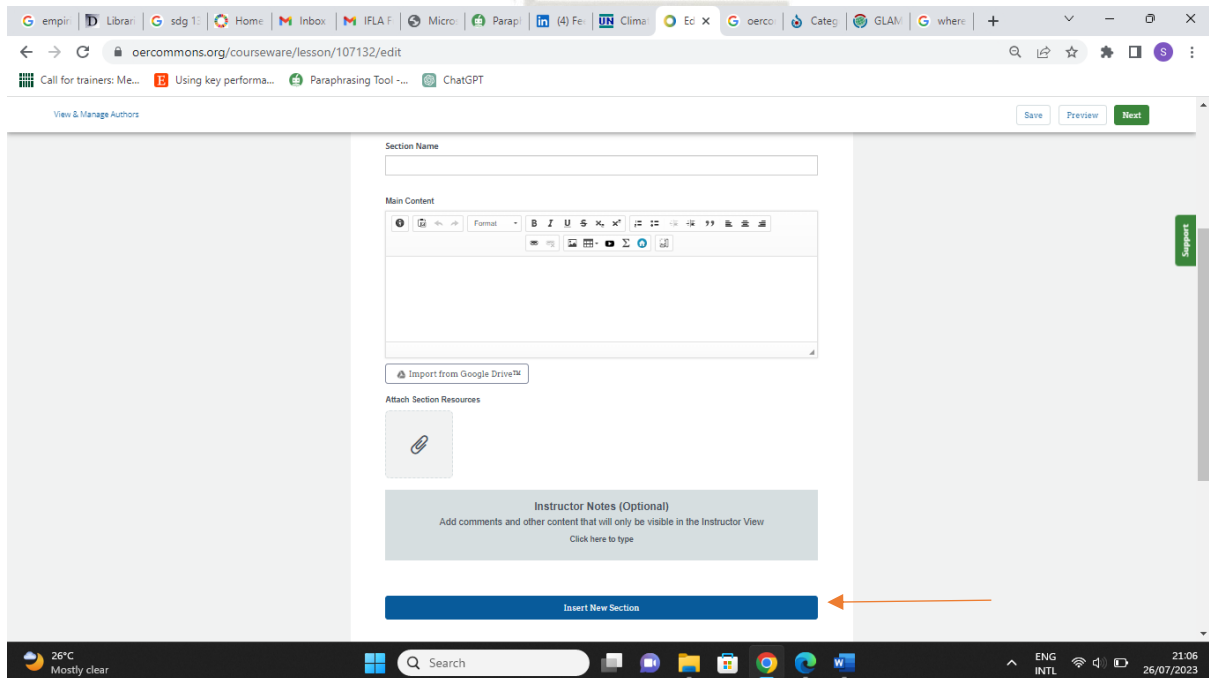


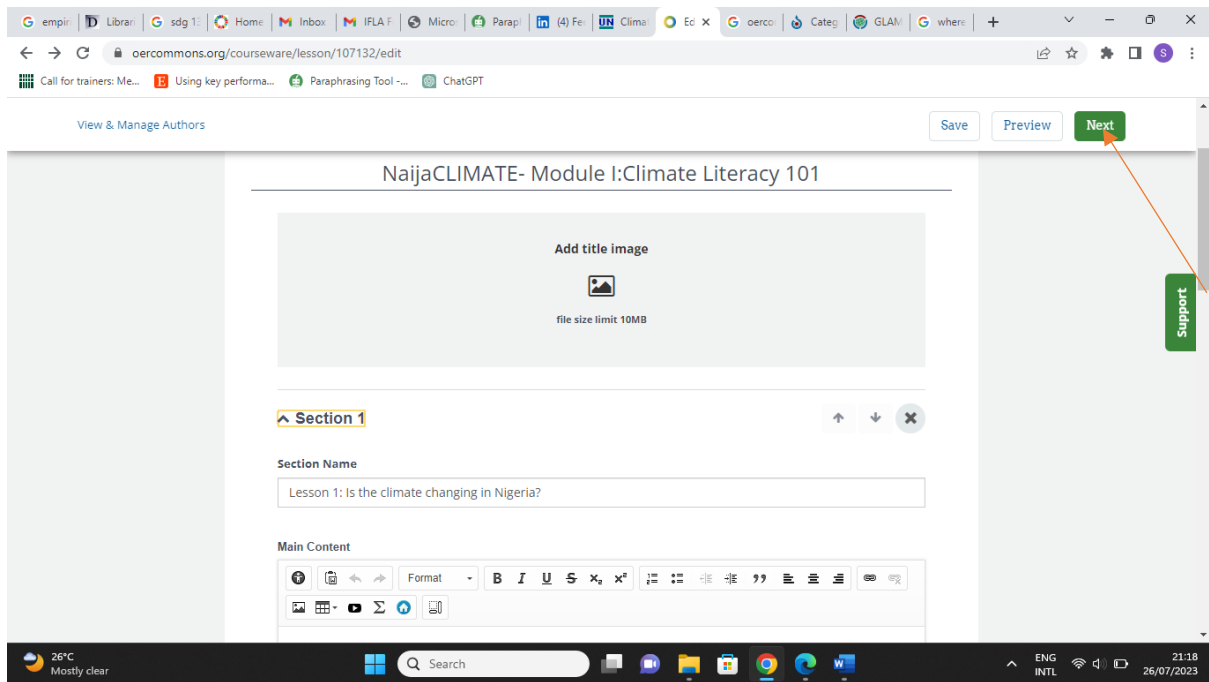
Figure 4: Writing Interphase

iv. Enter a **Title** for the resource and an image, if any. Please note that images are important to enhance the attractiveness of the resource and by extension its visibility. Also, note that one must have copyright permission for any image used. Open images are available on a number of websites including Wikipedia commons.

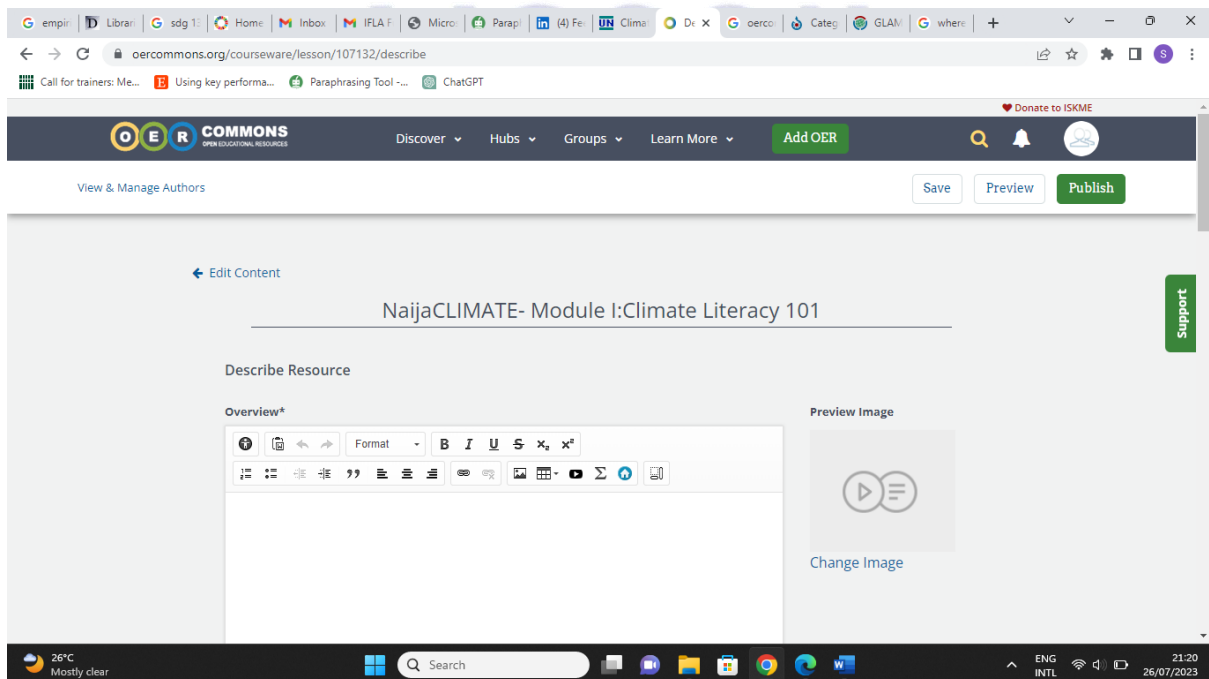
v. Add a name for the first section, chapter, lesson or module of the resource and start writing on the main content page.



vi. One can include a document from Microsoft word, images videos and use any of the tabs on the main content bar to edit or align one's writing. One can also add as many sections, chapters, modules etc as possible using the '**Insert New Section**' tab down below.



vii. After the completion of the write-up, click the ‘**Next**’ button by the top right corner. One can **Save** and come back to the contents at a later time or **Preview** what one has created.



viii. The next interphase is the description interphase, here one describes what the resource is about. After then, click on **Publish**. To ensure quality control, a team of administrators will approve the resource finally before it can be accessed.

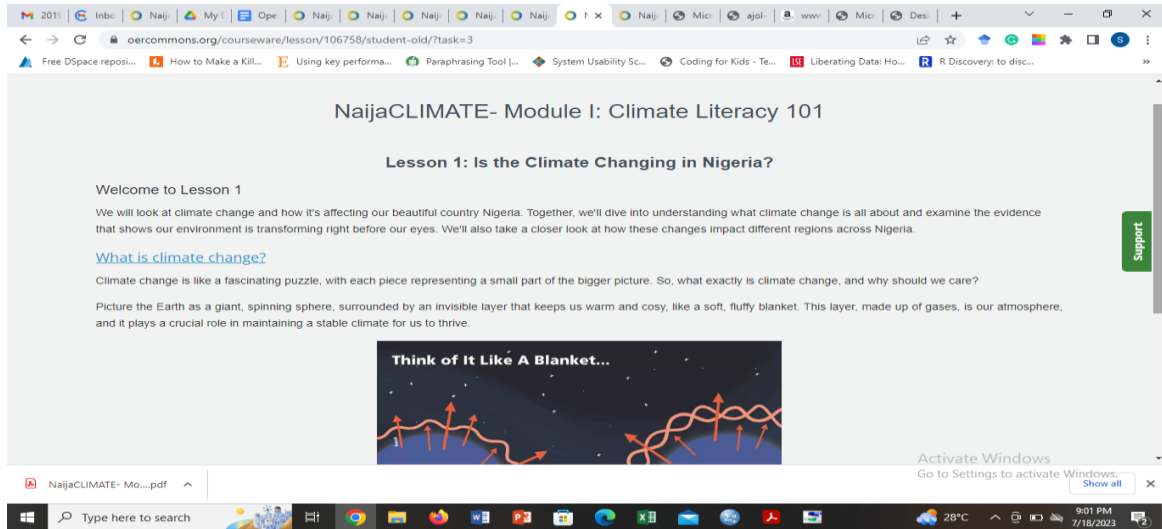


Figure 5: Screenshot of Module I

ix. The final resource should have an interphase like Figures 5 and 6.

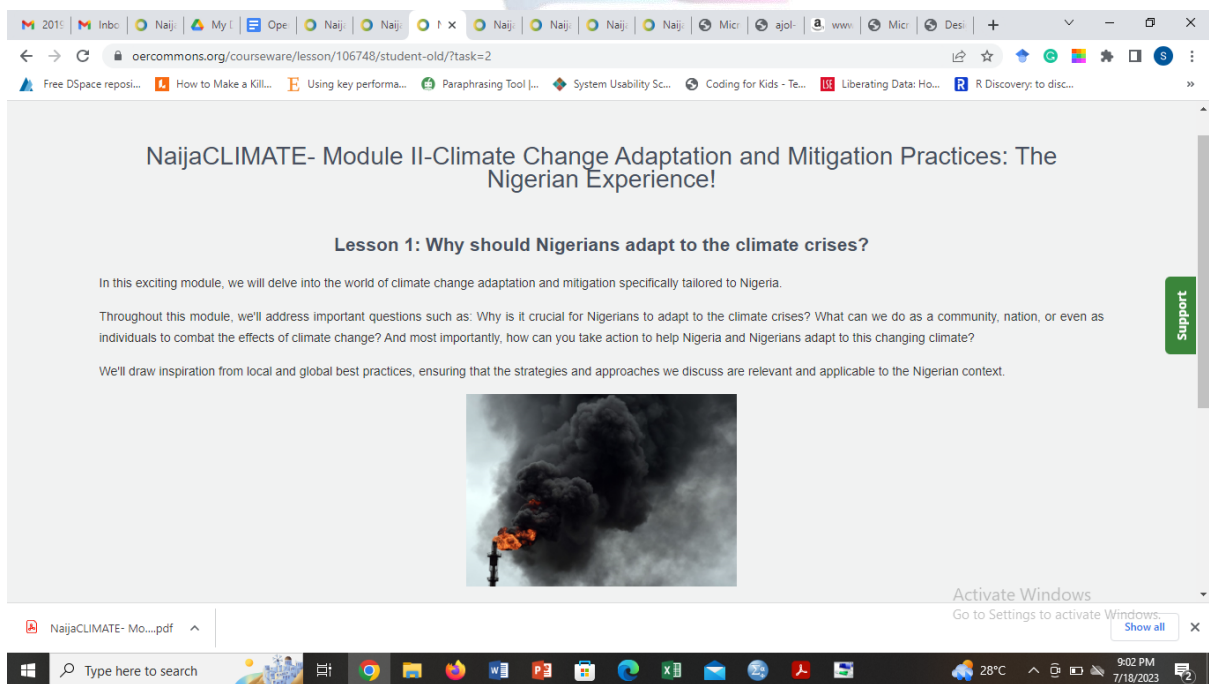


Figure 6: Screenshot of Module II

Conclusion and Further Development

The paper presented the method the researchers adopted in the creation of an online self-study tutorial on climate change for non-specialist audiences. It is envisaged that the

tutorial will help dispel misinformation about climate change and how it affects Nigeria and Nigerians. Further development of the tutorial includes its translation to pidgin and the three major Nigerian languages in textual and video formats. The tutorial can also be converted to a full online course with participants certified as climate advocates.

Acknowledgements

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