

## INTEGRATING DIGITAL TOOLS IN TEACHER EDUCATION: A WORKSHOP ON WEBSITE DEVELOPMENT FOR FILIPINO PRE-SERVICE TEACHERS

Mutia Delina<sup>1</sup>, Ricky M. Magno<sup>2</sup>, Surano Muhasyah<sup>3</sup>

<sup>1</sup>Universitas Negeri Jakarta, Indonesia, <sup>2</sup>West Visayas State University, Philippines,

<sup>3</sup>Ministry of Foreign Affairs of the Republic of Indonesia, Indonesia

[mutia\\_delina@unj.ac.id](mailto:mutia_delina@unj.ac.id)<sup>1</sup>, [rickymagno@wvsu.edu.ph](mailto:rickymagno@wvsu.edu.ph)<sup>2</sup>, [surano.muhasyah@kemlu.go.id](mailto:surano.muhasyah@kemlu.go.id)<sup>3</sup>

DOI: <http://doi.org/10.52593/svs.06.1.04>

Received: 7 January 2026, Revised: 28 January 2026, Accepted: 30 January 2026

### Abstract

**Keywords:**

ICT, website,  
education, pre-service  
teacher

Universitas Negeri Jakarta (UNJ) conducted international workshop aimed at enhancing the ICT literacy of Filipino pre-service teachers through practical website development training. The workshop was attended by 17 pedagogical students from six higher education institutions in the Philippines, divided into two batches in February and March 2025. Guided by a facilitator from UNJ, the participants were trained to use Weebly, a user-friendly website platform, to create educational websites without requiring programming skills. These websites incorporated essential instructional elements, including lesson plans, multimedia teaching materials, interactive learning exercises, assessments, and evaluation tools. The project emphasized the integration of digital technology in teaching and learning, equipping future educators with the skills necessary for 21st-century classrooms. Participants later presented their websites in October 2025, demonstrating how they applied these platforms in their teaching practice. This initiative highlights the critical role of teacher education institutions in bridging the ICT literacy gap and preparing future teachers for digital transformation in education.

### Abstrak

**Kata kunci:**

ICT, website,  
pendidikan, calon  
guru

Universitas Negeri Jakarta (UNJ) menyelenggarakan lokakarya internasional yang bertujuan untuk meningkatkan literasi TIK calon guru asal Filipina melalui pelatihan praktis pengembangan situs web. Lokakarya ini diikuti oleh 17 mahasiswa kependidikan dari enam perguruan tinggi di Filipina, yang dibagi ke dalam dua gelombang pada bulan Februari dan Maret 2025. Dengan bimbingan seorang fasilitator dari UNJ, para peserta dilatih menggunakan Weebly, sebuah platform pembuatan situs web yang ramah pengguna, untuk membuat situs web pembelajaran tanpa memerlukan keterampilan pemrograman. Situs web tersebut memuat unsur-unsur pembelajaran penting, termasuk rencana pembelajaran, materi ajar multimedia, latihan pembelajaran interaktif, asesmen, dan alat evaluasi. Kegiatan ini menekankan integrasi teknologi digital dalam proses belajar mengajar serta membekali calon pendidik dengan keterampilan yang dibutuhkan untuk menghadapi kelas abad ke-21. Para peserta kemudian mempresentasikan situs web yang telah mereka kembangkan pada bulan Oktober 2025, dengan menunjukkan bagaimana platform tersebut diterapkan dalam praktik pembelajaran mereka. Inisiatif ini menegaskan peran penting lembaga pendidikan tenaga kependidikan dalam menjembatani kesenjangan literasi TIK dan mempersiapkan calon guru menghadapi transformasi digital di bidang pendidikan.

## INTRODUCTION

The Philippines, located in Southeast Asia, is a nation with a population of over 100 million people and a rich yet complex educational history shaped by centuries of colonization. Under Spanish rule, education was primarily controlled by the Catholic Church and was limited to religious instruction for the elite class. The subsequent American colonization introduced a

more democratic public education system, using English as the medium of instruction and aiming to provide universal access to education across the archipelago (Sobritchea I, 1981).

Following its independence in 1946, the Philippines faced significant challenges in achieving equitable access to quality education. One of the most critical issues that became increasingly evident during the COVID-19 pandemic is the Information and Communication Technology (ICT) literacy gap (Collantes, 2021). This gap refers not only to unequal access to digital tools and internet connectivity but also to the disparity in skills and competencies required to use these technologies effectively. In the context of education, this digital divide is particularly problematic, as it limits teachers' ability to integrate technology into teaching and learning processes (Pentang, Ibañez, Subia, Domingo, & Gamit, 2021).

Teacher Education Institutions (TEIs) play a pivotal role in addressing this issue. As the primary training grounds for future educators, TEIs are instrumental in equipping pre-service teachers with the necessary knowledge, skills, and competencies to navigate and utilize digital technologies in the classroom. ICT literacy—defined as the ability to use digital tools safely, responsibly, and creatively—has become an essential component of modern teaching. ICT-literate teachers can enhance lesson delivery, facilitate interactive learning, manage and share educational content, and communicate more effectively with students regardless of location (Ederliza D. Frianeza, 2014).

Despite growing awareness of its importance, ICT literacy among pre-service teachers in the Philippines remains relatively low. Many future educators still lack adequate training and practical experience in integrating digital tools into their teaching practice. Bridging this gap is critical to ensuring that future generations of Filipino students receive a quality education that is relevant in an increasingly digital world (Avila Mangarin & Lea T. Climaco, 2024).

A collaborative initiative aimed at enhancing ICT literacy among Filipino pre-service teachers through an international workshop on website development. The workshop, conducted at Universitas Negeri Jakarta (UNJ), was designed to provide practical skills in creating educational websites using user-friendly platforms. This initiative highlights the importance of cross-border collaboration in improving teacher education and addressing global educational challenges in the digital era.

## METHOD

The program provided an international workshop aimed at enhancing ICT literacy among Filipino pre-service teachers. The primary objective was to provide participants with practical skills in developing educational websites using the Weebly platform, thereby equipping them with digital tools to support teaching and learning in their home institutions. The participants consisted of 17 pre-service teachers from the Philippines, divided into two batches. Batch 1 (February 2025) included 8 students from National University, Universidad de Sta. Isabel de Naga, University of the Immaculate Conception. Bath 2 (March 2025) included 9 students from Dr. Emilio B. Espinosa Sr. Memorial State College of Agriculture and Technology, Xavier University, West Visayas State University. All participants were enrolled in teacher education programs in their respective institutions and selected based on their interest in digital learning tools and their potential roles as future educators.

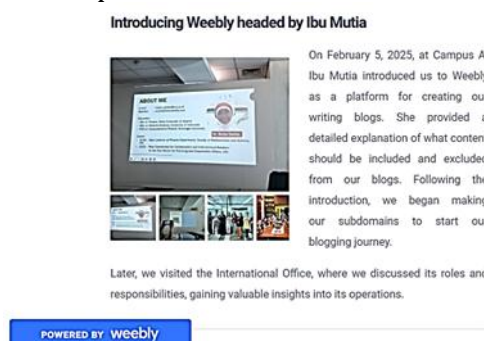


Figure 1. The workshop

The workshop was conducted on-site for one day at Kampus A, Universitas Negeri Jakarta (UNJ). The workshop focused on the use of Weebly, a user-friendly website builder that does not require prior programming experience. This platform was chosen for its accessibility and intuitive design, making it suitable for beginners and non-technical users.

The training included Introduction to Website Design Concepts, Hands-on Practice with Weebly, Development of an Educational Website Prototype, Feedback and Peer Review Sessions. The workshop emphasized the practical application of website development as a tool for instructional support, including features such as content delivery, interactive materials, and communication portals.

To assess the long-term impact of the workshop, participants were required to present the educational websites they developed during a follow-up activity held in October 2025. These websites were to be used in actual teaching and learning activities in their home institutions in the Philippines. The evaluation focused on the functionality, content relevance, user engagement, and integration of the websites in classroom practices.

## RESULTS AND DISCUSSION

As a result of the workshop, participants successfully developed educational websites that integrated various instructional components, including lesson plans, teaching and learning materials, student exercises, examinations, and evaluation tools. These websites were designed to support classroom instruction and promote independent student learning.



Figure 2. The workshop participants

A lesson plan is a structured, written outline that guides teachers in delivering instruction during a class session. It clearly defines the learning objectives, instructional strategies, materials to be used, and methods of assessment. Well-prepared lesson plans help educators maintain focus, manage time effectively, and ensure that students meet the intended learning outcomes.



Figure 3. The lesson plan

Teaching and learning materials refer to the instructional resources employed to facilitate student understanding. These may include multimedia content such as educational videos, interactive games, presentations, worksheets, and project-based activities. By embedding such resources into their websites, participants aimed to create more engaging and dynamic learning environments.



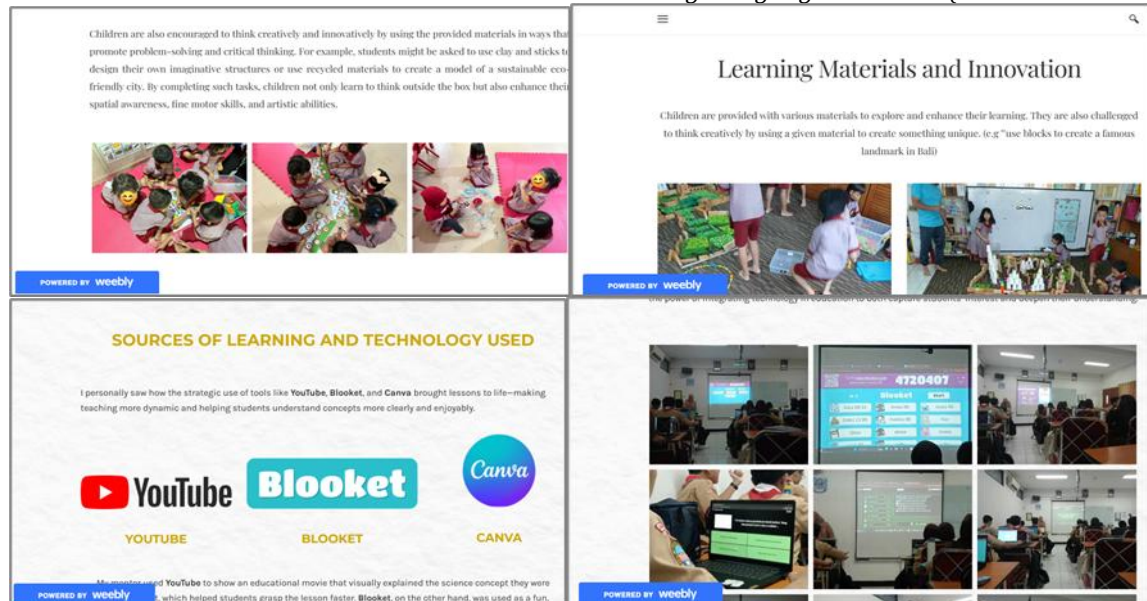


Figure 4. The learning material

The websites also included a variety of student exercises to reinforce learning. These ranged from traditional and digital formats, including quizzes, discussions, debates, case studies, simulations, and concept mapping activities. Such exercises encourage critical thinking, collaboration, and the practical application of knowledge.

To measure student progress, participants embedded examination and evaluation tools within their websites. These tools serve to assess student performance, identify areas for improvement, and inform instructional decisions. Assessments were designed to be both formative and summative, helping students monitor their own learning while providing valuable feedback to educators.

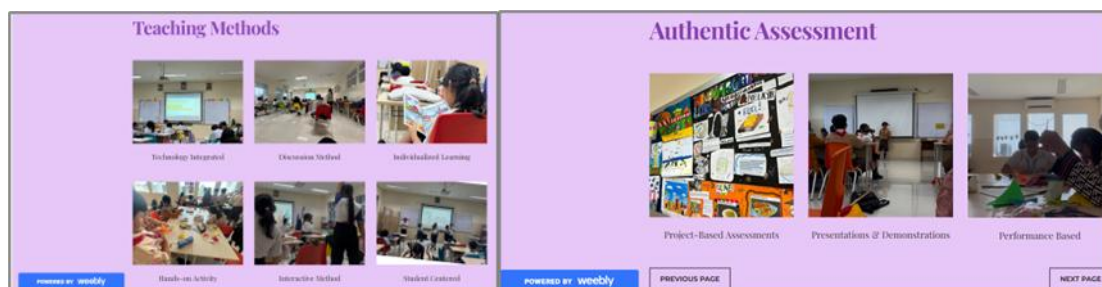


Fig 5. The assessment

In addition to academic content, some participants explored the potential for incorporating e-commerce features within their educational websites. For instance, they considered the possibility of offering subscription-based access to premium teaching and learning materials, downloadable content, or exclusive digital resources. This approach opens opportunities for sustainability and innovation in educational resource distribution, especially in remote or underserved areas.

Through this initiative, participants not only enhanced their technological skills but also demonstrated creativity in designing comprehensive educational platforms that could be applied in real teaching contexts within their home institutions.

## CONCLUSIONS

The conclusion should clearly indicate the results obtained, their strengths and weaknesses, and the possibility of further development.

The international workshop at Universitas Negeri Jakarta provided a valuable platform for enhancing ICT literacy among Filipino pre-service teachers. By engaging in hands-on website development using the Weebly platform, participants gained practical skills in integrating digital tools into their teaching practice. The educational websites they created served as comprehensive platforms containing lesson plans, instructional materials, student activities, assessments, and evaluation mechanisms. These tools are vital for effective, technology-supported teaching and learning in modern classrooms

Moreover, the workshop encouraged participants to think beyond traditional instruction by exploring innovative applications such as subscription-based access to digital resources. This not only demonstrates their growing digital competence but also their awareness of how technology can support inclusive and sustainable education.

Ultimately, the program underscores the importance of international collaboration and institutional support in addressing the ICT literacy gap among future educators. By equipping pre-service teachers with relevant digital skills, such initiatives contribute significantly to the development of more equitable and effective education systems, both in the Philippines and globally.

## **REFERENCES**

- Avila Mangarin, R., & Lea T. Climaco, J. (2024). Exploring Contributing Factors on Poor Digital Literacy of Students: A Review of Existing Studies. *International Journal of Research and Innovation in Applied Science (IJRIAS)*, 582-588.
- Collantes, L. M. (2021). Unveiling the Problems of Student Teachers during Practice Teaching in Nueva Ecija, Region III, Philippines. *Indonesian Research Journal in Education*, 45-62.
- Ederliza D. Frianeza, I. D. (2014). Challenges in the Philippine Educational System and its Impact Towards Teachers' Instruction Strategies and Professional Growth. *Journal of Pedagogy and Education Science*, 63-71.
- Pentang, J. T., Ibañez, E. D., Subia, G. S., Domingo, J. G., & Gamit, A. M. (2021). Problem-Solving Performance and Skills of Prospective Elementary Teachers in Northern Philippines. *Journal of Hunan University (Natural Sciences)*, 122-132.
- Sobritchea I, C. (1981). The Philippine Peasantry of the Early Colonial Period. *PSR*, 17-23.