

5. Ensure that research results exert an **impact** on both users (teachers, principals and students) and policy makers.

One of the fundamental missions of scientific research is to share findings with concerned stakeholders in order to inform and orient their actions and improve conditions. We must therefore ensure that the findings on the pedagogical integration of ICT exert a real impact on the front line (e.g., principals, teachers, students, teachers in training, educators) and behind the scenes (policy makers). For this to happen, every study should include a list of practical recommendations that are directly connected to the findings.

6. Foster the integration of **young researchers** into research projects on the pedagogical integration of ICT.

Young researchers must be trained if we are to renew and sustain research initiatives on the pedagogical integration of ICT. A very simple and effective way to train upcoming researchers is to have them participate at all research stages and to grant them increasing responsibility as they develop their skills.

7. Learn to consider **diverse dimensions** when conducting studies, such as gender, national languages, culture, persons with special needs, and geographic and socioeconomic circumstances (e.g., rural and urban areas).

The pedagogical integration of ICT can vary widely, depending on the characteristics of the teachers and students concerned. To better understand these variations and to ensure relevant and useful recommendations and outcomes, it would be advisable to account for factors such as gender, national languages, persons with special needs, and geographic and socioeconomic circumstances (e.g., rural and urban areas).

8. Use ICT to support **scientific research**.

ICT constitute a field of study for education science researchers, but they also provide useful tools for conducting scientific research. In other words, recent technological advances have improved and facilitated the work of researchers at all steps of the research process. Researchers can reap the benefits of using ICT to conduct their studies and disseminate their results.

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recommendations
to spur African
research on ICT
in education





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As researchers, educators, administrators and trainers, it is up to us to manage the changes that information and communication technologies (ICT) have wrought in teaching, learning and society as a whole. Given its current rate of development, Africa cannot escape this imperative. The PanAfrican Research Agenda on the Pedagogical Integration of ICT (PanAf) aims to contribute to this effort. PanAf is the first continent-wide network of African researchers to document pioneering initiatives for ICT integration into education. It has received widespread international recognition for this bold and innovative effort to develop scientific capacities, and for establishing the ICT Observatory (<http://www.observatoiretic.org/default/use?locale=en>) as a hub for collecting and sharing information. The Observatory hosts a freely accessible database of over 20,000 documents submitted from across the African continent, with contributions from about fifty African researchers who have conducted studies with over 300,000 students as well as 9,000 teachers and other education staff in some 140 schools, based on recognized scientific indicators. PanAf will soon be completing its mandate, and the recommendations presented here are meant as a summary of the outcomes of this ambitious, five-year scientific undertaking. The recommendations were developed collaboratively, drawing on the empirical findings of the national research teams from 13 participating countries. In order to provide some practical implications, each recommendation is accompanied by a brief explanation and a videotaped interview with a researcher that can be accessed online.

We hope that these recommendations will prove helpful in orienting and facilitating the pedagogical integration of ICT in Africa.

The PanAf Team

1. **Reuse** previously gathered data (e.g., [observatoiretic.org](http://www.observatoiretic.org)).

Previously collected data can be used repeatedly in collaborative scientific studies on the pedagogical integration of ICT. An excellent example is the ICT Observatory (www.observatoiretic.org), which provides free access to information on the pedagogical integration of ICT gathered from 13 African countries.

2. Conduct **empirical studies** on ICT use in classrooms and schools.

To ensure that scientific research on the pedagogical integration of ICT is based on real-life observations that are representative of the studied schools, an empirical approach is recommended. This approach should be based on observable data (e.g., ICT use in education and their impacts) obtained from targeted education settings.

3. Vary the **types of empirical studies** on ICT in education.

Many types of empirical studies on the pedagogical integration of ICT are possible. For instance, researchers can use a qualitative, quantitative or mixed approach (the mixed approach combines quantitative and qualitative data), or action research. Because they are complementary, these different research approaches would also be useful for investigating ICT in education.

4. Increase the **number of publications** addressing the pedagogical integration of ICT.

Dissemination is key to scientific research, because it enables findings to be shared, which contributes to a deeper common understanding of the educational use of ICT. Therefore, it is essential for all studies on the pedagogical integration of ICT to be published in scientific or professional journals.