TEACHNOLOGY: EDUCATION AMID INNOVATION

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"Education cannot be effective unless it helps a child open up himself to life." a saying from Maria Montessori is relevant today in the 21st Century because academic excellence alone can no longer ensure professional advancements and success in life and career. Nowadays, most organizations and companies entertain not only students' academic performance and achievements but also the involvement of students in various activities and jobs. Furthermore, thanks to the advent of modern technology, many skilled competencies related to Information and Communication Technology (ICT) have developed, which gives many opportunities to 21st-century learners to be involved in various skilled-related works. This advantage given by modernization across the globe has lifted many skilled competencies resulting in the diversity of 21st learners. Student diversity entails that every learner is distinct in many aspects, and so, each learner, as an individual, learns distinctively. Furthermore, with various learning styles, the educational curriculum must adapt to many aspects of innovation that technological progression has brought to humanity and can provide the educational needs of every learner and every compartment of student diversity.

In the current Philippine educational system, although school districts, administrators, and teachers all face substantial hurdles in technology integration, exciting new educational technologies are becoming available and more accessible and give teachers novel and creative methods to convey curriculum materials to students. Moreover, while there may be some obstacles, attempts to integrate new instructional technologies into the classroom will be rewarded. Recent studies on the use of technology in the classroom

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show that crucial improvements have attempted to remove the first-order (external) barriers to technology integration. These first-order (external) barriers include insufficiency in technological equipment and connectivity, inadequacy in educational technology-related pieces of training that can provide teachers with sufficient professional development on new technologies and can uplift their full potential in utilizing them, and support constraints to technology integration which includes poor administrative/peer support (Angeles, 2000). From these constraints, the Department of Education (DepEd) has provided educational programs to improve further the status of utilization and integration of technology in education despite being hurdled by these first-order barriers. Furthermore, because of these educational programs, the DepEd has managed the gradual use, interlacing, and adaptation of technology in education through some of its myriad efforts, which include the following: 1) giving more focus on educational funds for resources from non-traditional sources (such as crowdfunding and grants); 2) building relationships with the DOST (Department of Science and Technology), DICT (Department of Information and Communications Technology), and the like for advice on the best professional development programs; 3) utilizing the experience of master teachers in professional learning communities; 4) requesting training on newly adopted educational software directly from software companies; and 5) ensuring that adequate technical, administrative, and financial support is available to teachers during the implementation (Ertmer et al., 2002).

In contrast, getting over second-order (internal) barriers to technological integration will be more challenging. These second-order (internal) barriers include teachers' attitudes and perspectives that play a crucial impact in defining the function and efficacy of technology in the classroom, and that are, in general, ultimately influenced by how they use technology in teaching. From these constraints to technology integration, the DepEd has implemented educational programs to address the challenges within the teacher (i.e., their attitudes, beliefs, skills, and knowledge) relative to technology utilization and integration. Furthermore, from these programs, the DepEd has

maintained the gradual utilization, integration, and adaptation of technology in education through some of its efforts which include the following: 1) providing teachers training workshops and seminars highlighting constructivism and student-centered education; 2) focusing on professional development efforts on those that emphasize the use of technology in instruction, rather than for administrative tasks; 3) incorporating visualization tools and LMS (Learning Management Systems) in student tracking technologies that enable teachers to trace and interpret the progress of their learners easily; 4.) involving the teachers in the decision-making process when adopting new technologies; and 5.) providing teachers with training on the nexus of technological knowledge, pedagogical knowledge, and content knowledge (Ertmer et al., 2002).

With the fast progression rate of technology and the continuously changing needs of the 21st learners, the conventional face-to-face approach is quickly losing its significance and becoming less practical in the new normal. The utilization and integration of technology to enhance learning is a very intriguing idea. At present, the development of technology has changed learners' needs, resulting in many popular educational strategies, including blended learning, flipped classroom tactics, mobile learning, personalized learning experiences, bring-your-device (BYOD) rules, virtual laboratories, and other cutting-edge ideas. Web conferencing applications like Zoom, Google apps, open educational resources, and learning management systems (LMS) are some of the most frequently used tools that our country's educational system has adopted (De Guzman, 2003). The Department of Education-National Education Portal has been developed and used by the department to support and guide the learners, teachers, and other educational stakeholders in managing the many aspects of educational processes amid serious situations brought about by the pandemic. This LMS Is a platform adopted by many public and private schools under the department to deliver online and blended learning. Through this portal, students can learn at any time, anywhere. Instead of having access to learning tasks and activities only during certain hours, students can access them anytime, allowing them to learn at their own pace and make the most of their education.

It can help everyone, even those needing more time for traditional education. To access the prescribed LMS, they must use their mobile device. Teachers can upload learning materials and make assessments that are reusable. Also, they can deliver educational content to students in real-time and give immediate feedback depending on their grading system. Using the reports and analytics capabilities, teachers can track and analyze students' progress and communicate with them (Llego, 2020). These features of DepEd LMS are the same as that of Zzish. This LMS platform has been adopted by the Provincial Government of Bataan, which aims to lessen the burden of teachers in assessing and evaluating students' learning.

The 21st Century demands a new breed of learners with the necessary developed 21st-century skills; considering this, it is only theming that teachers be also 21st-century skills equipped. Technology is crucial to 21st-century learning and living to accomplish this objective. It is the "Nile River" of today's cultural era. Digital aspects of living in today's world are taking strides in both developed and developing countries; from the marketplace to the schools, government, and corporate world, technology has already conquered every crevice of our systems. Therefore, education as a purveyor of change should keep abreast in this fast-paced world and, if possible, be a step ahead. In addition, technology solved concerns of our educational system regarding the facility of learning through remote set-ups, "teachnology" inside the schools and classrooms also helps in instructional and administrative aspects and dealings of learning.

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